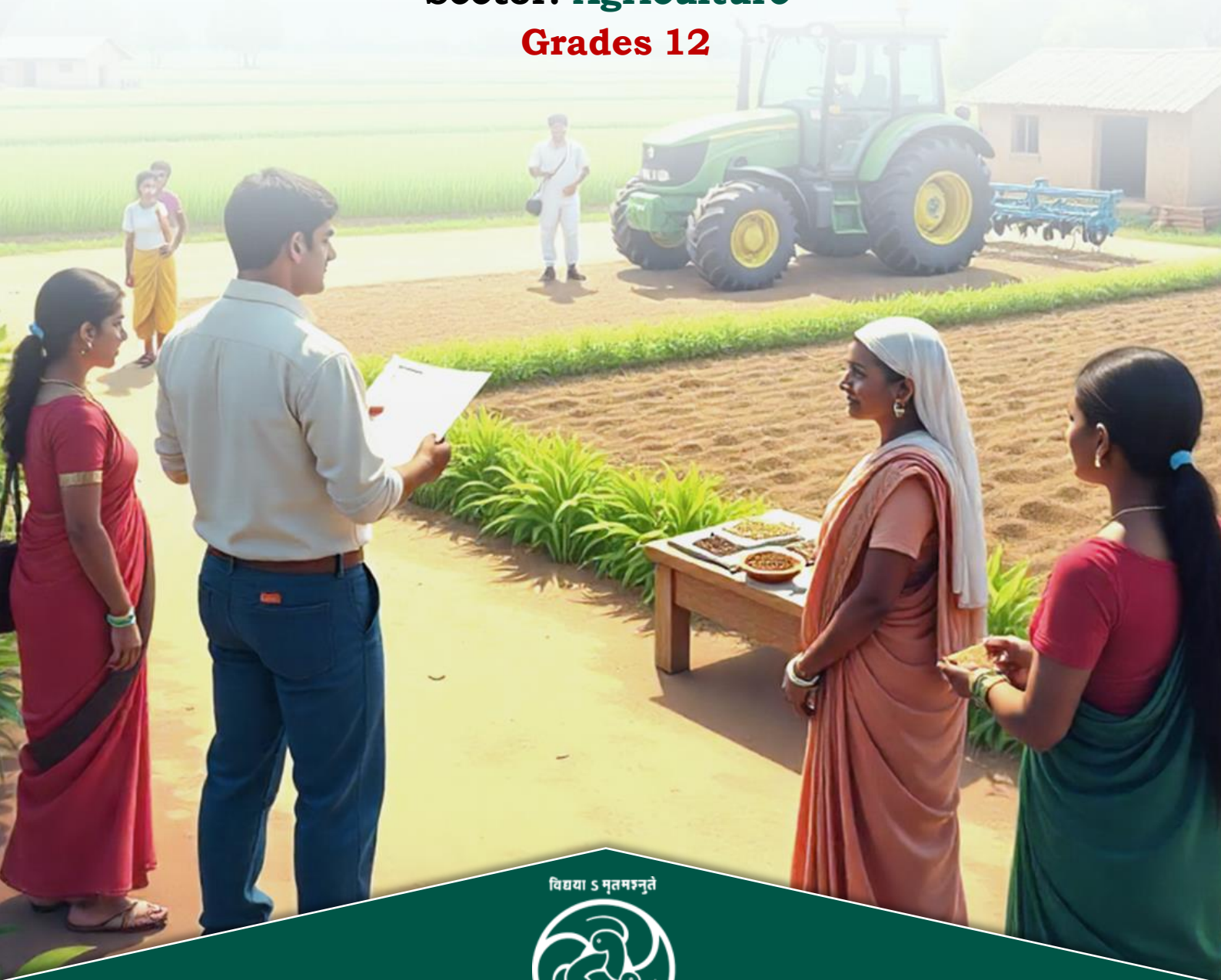
Draft Study Material

Agriculture Extension Service Provider

(Qualification Pack: Ref. Id. AGR/Q7601)

Sector: Agriculture

Grades 12



विद्यया ऽमृतमश्नुते

एन सी ई आर टी
NCERT

PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION
(a constituent unit of NCERT, under MoE, Government of India)
Shyamla Hills, Bhopal- 462 002, M.P., India
www.psscive.ac.in

Preface

Vocational Education is a dynamic and evolving field, and ensuring that every student has access to quality learning materials is of paramount importance. The journey of the PSS Central Institute of Vocational Education (PSSCIVE) toward producing comprehensive and inclusive study material is rigorous and time-consuming, requiring thorough research, expert consultation, and publication by the National Council of Educational Research and Training (NCERT). However, the absence of finalized study material should not impede the educational progress of our students. In response to this necessity, we present the draft study material, a provisional yet comprehensive guide, designed to bridge the gap between teaching and learning, until the official version of the study material is made available by the NCERT. The draft study material provides a structured and accessible set of materials for teachers and students to utilize in the interim period. The content is aligned with the prescribed curriculum to ensure that students remain on track with their learning objectives. The contents of the modules are curated to provide continuity in education and maintain the momentum of teaching-learning in vocational education. It encompasses essential concepts and skills aligned with the curriculum and educational standards. We extend our gratitude to the academicians, vocational educators, subject matter experts, industry experts, academic consultants, and all other people who contributed their expertise and insights to the creation of the draft study material. Teachers are encouraged to use the draft modules of the study material as a guide and supplement their teaching with additional resources and activities that cater to their students' unique learning styles and needs. Collaboration and feedback are vital; therefore, we welcome suggestions for improvement, especially by the teachers, in improving upon the content of the study material. This material is copyrighted and should not be printed without the permission of the NCERT-PSSCIVE.

Deepak Paliwal
(Joint Director)
PSSCIVE, Bhopal

Date: 12 January 2026

Study Material Development Committee

MEMBERS

1. Dr. Anup Prakash Upadhyay, Associate Professor, IIFM, Bhopal, Madhya Pradesh
2. Dr. Shinogi K. C., Senior Scientist, ICAR-IISS, Bhopal, Madhya Pradesh
3. Dr. Kamini Bisht, Assistant Professor, Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur, Madhya Pradesh
4. Dr. Parvez Rajan, Assistant Professor, Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur, Madhya Pradesh
5. Dr. Rajiv Kumar Pathak, Professor and Head, Department of Agriculture and Animal Husbandry, PSSCIVE, NCERT, Shyamla Hills, Bhopal, Madhya Pradesh
6. Mr. Aman Kumar, Assistant Professor, Department of Agriculture and Animal Husbandry, PSSCIVE, NCERT, Shyamla Hills, Bhopal, Madhya Pradesh.

MEMBER-COORDINATOR

- Dr. Anoop Kumar Rathore, Assistant Professor, Department of Agriculture and Animal Husbandry, PSSCIVE, NCERT, Shyamla Hills, Bhopal, Madhya Pradesh

Table of Contents

Module 1 Organise Training Programmes

Module Overview

In the context of farmers and rural communities, capacity building through effective training programmes plays a vital role in improving agricultural practices, ensuring livelihood security and promoting rural well-being. This unit will guide through the process of planning and structuring training programmes systematically, ensuring smooth execution and evaluating outcomes using appropriate tools and techniques. By mastering these skills, extension professionals can design learner-centred and result-oriented training programmes that lead to sustainable change in the target community.

This module equips students with essential knowledge and skills required to effectively organise training programmes in the agricultural and rural development context. It focuses on the complete training cycle, from planning to reporting, ensuring that training activities are well-structured, goal-oriented, and impactful. In Session 1, students will learn the fundamentals of designing, implementing, and evaluating training programmes. The session emphasizes identifying training needs, setting clear objectives, selecting appropriate methods, and assessing the effectiveness of training activities. In Session 2, the module focuses on developing report writing and presentation skills. Students will understand how to document training activities clearly and present outcomes in a structured and professional manner for stakeholders and decision-makers.

Learning Outcomes

After completing this module, you will be able to:

- Design, implement, and evaluate training programmes by identifying training needs, setting clear objectives, selecting appropriate training methods, and assessing training effectiveness.
- Prepare well-structured training reports and deliver effective presentations that clearly communicate training processes, outcomes, and recommendations to stakeholders.

Module Structure

Session 1: Designing, Implementation and Evaluation of Training Programs

Session 2: Report Writing and Presentation Skills

Session 1: Design, Implementation and Evaluation of Training Programmes

Concept

Training is concerned with imparting a specific skill for particular purposes. It is the act of increasing the knowledge and skill of an employee for doing a particular job. It is concerned with imparting a specific skill for particular purposes.

It is a process that tries to improve skills or add to the existing level of knowledge so that the employee is better equipped to do his present job or to mould him to be fit for a higher job involving higher responsibilities. It bridges the gap between what the employee has and what the job demands.

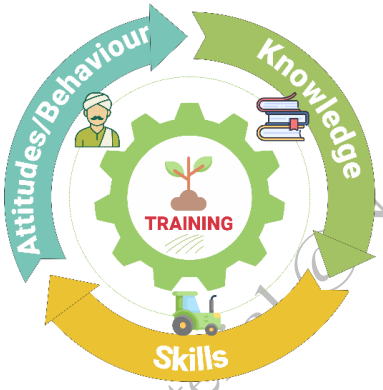


Fig 1.1

Training is not something that is given only once; but a continuous process to carry out the narrow implication of imparting specific skill to an individual.

Agricultural training programmes are designed to help farmers and rural youth learn new skills, improve productivity and adopt modern techniques. For training to be successful, it must be well planned and properly implemented.

Definition

- According to Flippo (1971), "Training is the act of increasing the knowledge and skills of an employee for doing a particular job".
- Drucker (1984) defined training as a "Systematic process of altering the behaviour and/or attitude of employees in a direction to achieve organizational goals.
- According to Lynton and Pareek (1967), training is a process of preparing the learners for certain line of action. It helps the participants to improve job performance. It deals with understanding and skill.

- Taylor (1961) defined training as a means to bring about continuous improvement in the quality of work performed by an individual and equip him with necessary knowledge, skills, abilities and attitudes to perform the job efficiently.

Training can therefore, be conceptualized as a planned and systematically organized effort to increase and update knowledge, improve skills, inculcate attitude and enhance capabilities and capacities of individuals to enable them to perform their tasks more effectively and efficiently.

Meaning

Training means to educate a person so as to be competent, qualified and proficient in doing some job. It aims at bringing a desirable change in the behaviour of the trainee or the learner.

Training is a process of acquisition of new skills, attitude and knowledge the context of preparing for entry into a vocation or improving one's productivity in an organization or enterprise.

Agricultural training refers to the education and skill development programs aimed at enhancing the knowledge of the stakeholders in the agricultural sector.

Importance of training

Agricultural extension service providers play dual role as learners as well as trainers or facilitators. One of their core responsibilities is to organise and conduct training programmes for farmers, rural youth and other stakeholders. Training programmes organized by agricultural extension service providers are a cornerstone for empowering farmers, rural youth and other stakeholders. Such initiatives not only enhance technical capabilities but also strengthen confidence, motivation and overall sustainability in the agricultural sector.

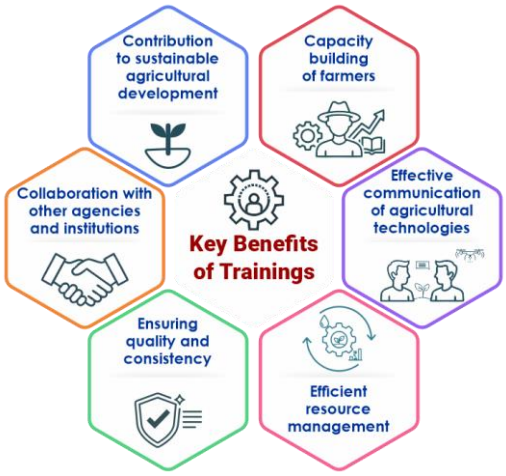


Fig 1.2

Experiential Learning Cycle

Effective training strategies which incorporate experiential learning approaches provide opportunities for a person to engage in an activity, review this activity critically, draw some useful insight from the analysis, and apply the result in practical situation.

The core ELC has 4 stages: Experience, Processing, Generalizing and Application. A graphic representation of the experiential model is presented below:

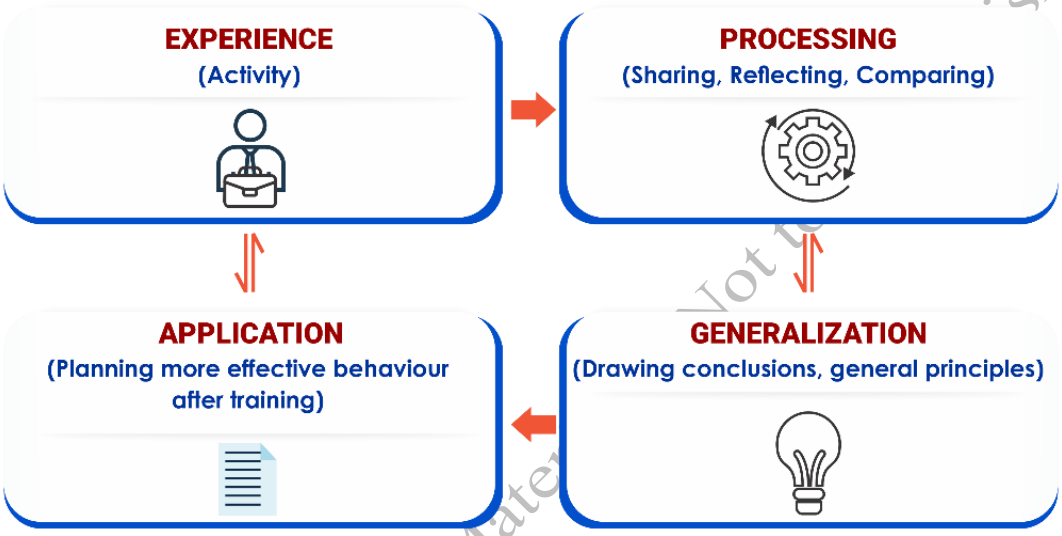


Fig 1.3

- There are two steps for "entering" the Experiential Learning Cycle (ELC): 1. Climate Setting and 2. Explaining and Clarifying Objectives.
- The step for "leaving" the ELC is Closure. Therefore, the Seven-Step Model is structured as follows:

Step 1: Climate Setting

Step 2: Learning Objectives

Step 3: Experience

Step 4: Processing

Step 5: Generalizing

Step 6: Application

Step 7: Closure

1. **Climate Setting:** Creates a friendly environment and explains the importance of the training programme. This makes the learners interested

and ready to learn. Example: ASEP may start with a small activity or a story related to the topic so they connect immediately.

2. **Goal Clarification:** Explains what the learner will learn and why it is important for them. Because when learner know the purpose in simple and clear form, they focus better. Example, in today's session we will learn how to prepare organic fertilizer and how it improves soil health.
3. **Experience:** Here the learners engage in activities that generate experiences related to the training topic. This could be a role-play, a game, a group task, a case study. This activity gives real-life experience related to the topic as the participants get involved and learn by doing. For example, the expert demonstrates the preparation of compost in the field.
4. **Processing** (Reflection and Analysis): After the activity, the learners think about what they just did. The participants reflect on their experiences, analyze them and share their reactions and observations in small or large groups. Here the AESP guides participants to examine thoughts, emotions and outcomes.
5. **Generalizing (Drawing Conclusions):** In this step, participants find the main lesson from the activity. They answer questions like:
   - What did we learn from this?
   - How can this lesson be used in real life?
   - This helps them connect the activity with other situations.

For example: Participants may draw lessons such as the importance of maintaining proper moisture and using correct raw materials.

6. **Applying (Action Planning):** Now participants think about how the lessons learned during the session will be useful in their occupation. They may make a plan for how they will do things differently in the future. For example: Participants may be asked to make a plan to start composting in their villages.
7. **Closure:** The final step summarizes the key points of the session, reviews how the objectives were achieved and provides a sense of completion. It also creates continuity by linking the current session to upcoming training activities or future applications of learning.

The role of the Agriculture Extension Service Provider is to act as a facilitator during each phase of the learning process and to encourage participants to think critically. They should ensure that everyone's contributions are heard and valued, creating an inclusive learning environment. Additionally, they help participants connect their conclusions with relevant theoretical concepts, allowing for deeper understanding and stronger links between practical experiences and knowledge.

Design and Implementation of Agricultural Training Programmes

Phases of training

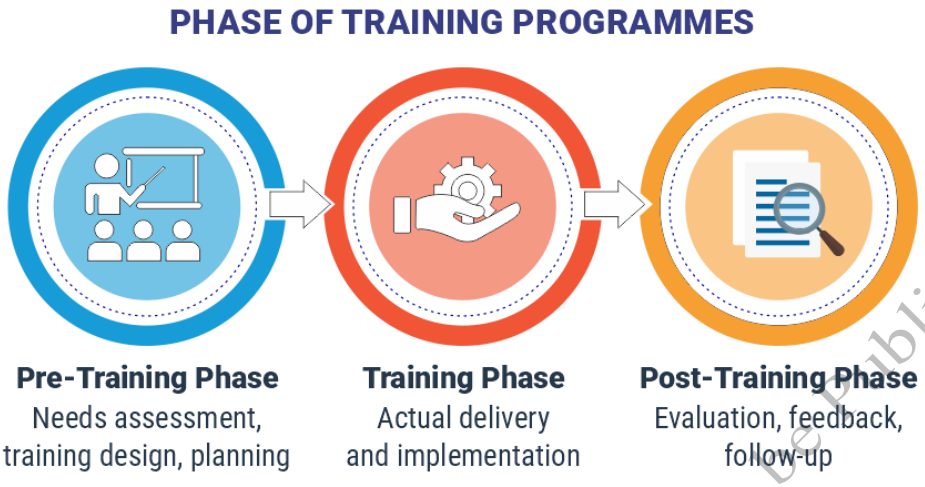


Fig 1.4

A. Pre-training phase includes

- Identifying target audience and Needs Assessment
- Training design and planning consist of
    a. Setting objectives (SMART)
    b. Selecting topics and content in accordance with the needs of the target audience
    c. Selecting appropriate training methods
    d. Resources required for training
    e. Training schedule preparation

B. Training phase is the implementation phase consists of actual delivery of training programme. After the selection of an appropriate method, the actual functioning takes place. Under this step, the prepared plans and programmes are implemented to get the desired output.

C. Post-training phase involves evaluation and follow-up

A- Pre-Training Phase

Identifying targeted audience and Needs Assessment

Before planning any training, AESP must know who needs the training. These could be:

- Small and marginal farmers
- Women farmers

- Rural youth
- Farm labourers

A **need assessment** helps to find out what the trainees already know and what they need to learn. Training needs could be expressed in terms of components such as, information, knowledge, skills, and competencies,

Prior to designing a training course, the agriculture extension service provided must get answer of the following four central questions

1. Who is the target audience for the proposed training? (**Target audience**)
2. What are the current roles and practices performed by members of this target audience? (**Present roles**)
3. What gaps exist between what these participants currently know/do and what they need to know to perform their roles more effectively? (**Knowledge gap**)
4. Is training an appropriate and effective means to bridge these identified gaps? (**Outcome**)

These questions form the foundation of a training needs assessment.

attitudes, and values. This categorization is helpful in converting the training needs into topic, training areas, and modules and provides a sound basis for determining the nature at inputs required. It also enables you to decide on suitable training activities.

Training Needs Assessment is a means to find out who, if any one needs training and what kinds of training they need.

Reasons for conducting needs assessment:

- Identify knowledge, skill that need to be learned
- Develop training objectives
- Develop training materials
- Select training strategies
- Develop evaluation instrument

Training need refers to the "gap between "'what is and what should be" in terms of trainee's knowledge, skills, attitude and behaviour for a particular situation at one point in time. This gap is called "a problem", which usually occurs when a difference exists between "desired performance" and "actual performance"

Training Need = Desired level of performance – Current level of performance

This gap forms the basis for training aimed at raising performance to the required standard.

Training design and planning consist of

f. Setting objectives (SMART)

g. Selecting topics and content in accordance with the needs of the target audience

h. Selecting appropriate training methods

i. Resources required for training

j. Training schedule preparation

a. Setting objectives

The training objective of a particular training programme is the statement of the desired end product/target to be achieved through training course. It should be stated in terms of knowledge, skills, attitudes and other attributes (KSAOs) which the trainees will gain at the end of the training programme.

In order to develop good training, objectives should be specified. Objectives serve as basis to decide about content and methods of training.

Meaning of objective:

- According to Hammond, an objective is a statement of interest and direction of movement or a desirable predetermined product- a determiner of action.
- A good objective in extension is one that will provide possible direction for large number of people to move some distance. Extension must help people, define the direction in which they want and need to go.

Steps in translating needs into objectives

1. List down all the needs identified
2. Identify those needs that can be addressed through training
3. Prioritize the training needs based on their importance.
4. Critically analyze each need
5. Convert the prioritized needs into objectives

Objectives should be *SMART*:

S – Specific (clearly state what is to be learned)

M – Measurable (how will you know the trainee has learned it?)

A – Achievable (within the ability of the learners)

R – Realistic (linked to practical use)

T – Time-bound (completed in a specific time)

b. Selecting topics and content in accordance with the needs of the target audience

The success of any training course depends on several factors, and one of the most important is how well it is designed. Selecting appropriate topics and training content is a very important part in the training design and planning phase. The effectiveness of any training programme largely depends on how well the content aligns with the actual needs, problems and aspirations of the target audience. This ensures that the training remains relevant, practical and demand-driven.

The content should be context-specific, considering the participants' literacy levels, farming systems, socio-economic background, and language preferences. It should include both theoretical knowledge and practical skills that participants can apply immediately in their work or livelihoods.

When creating the course, it is important to clearly decide what the course wants to achieve. The goals should explain what knowledge participants will gain, how their attitudes might change, what skills they will improve, and any other values or abilities they should develop by the end of the training.

Appropriate curriculum can be developed by following the 'Concentric Circles Approach to Curriculum'. Under this approach there are three concentric circles:

- The inner circle (priority 1) of what must be known
- The middle circle (Priority 2) of what should be known, and
- The outer circle (priority 3) of what could be known.

It is imperative that the AESP concentrates upon the inner circle of what must be known and does not drift to the outer circle of what could be known, as it very often happens in practice.

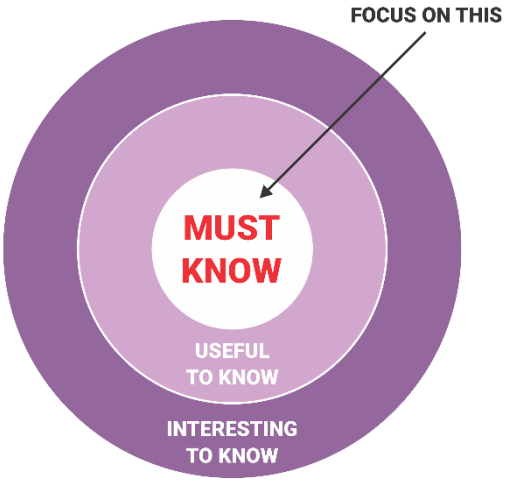


Fig 1.5

Identifying Content from Objectives

Once we have derived the objectives of a particular training programme precisely, the next task in designing is to identify the content, which will help us to achieve those objectives.

In identifying the content, we once again need to look at:

- Who our learners are?
- What is their level?
- What is their starting point?
- What do they already know?
- How much detailed information can be given?
- Which combination of learning foci needs to be emphasized with that group of learners?

Sequencing Content

Once we decide what topics to cover in a training programme, the next step is to decide the order or flow of these topics. A good sequence makes learning smooth and helps participants move step by step from what they already know to what they need to learn.

There are different ways to arrange the sequence of content:

- ✓ Known to Unknown: Begin with topics learners are already familiar with and then gradually move to new or unfamiliar topics.
- ✓ Simple to Complex: Start with basic concepts and move towards more detailed or advanced content.
- ✓ Concrete to Abstract: Use real-life examples and hands-on demonstrations first, then move on to theoretical or abstract ideas.
- ✓ Immediate to Remote (Local to Global): Begin with issues that are directly relevant to the learners' daily life and then move outward to wider concepts.
- ✓ Chronological Order: Arrange content in the order of time or natural occurrence of activities.
- ✓ Prerequisite Learning: Teach prerequisite or foundational topics first so learners can easily understand the advanced ones.
- ✓ Whole to Part or Part to Whole: Depending on the topic, you may begin with the entire concept (big picture) and then break it down into parts, or start with the small parts and build up to the whole.

Steps of design need based curriculum

Step.1: Determine the targeted field as per course objectives i.e. which behavioural outcome is expected as a result of the training activity prioritize them.

Step.2: Select the curriculum area such as 1. Subject of study, 2. Practical work, 3. Other activities. 4. Develop a course outline for such area.

Step.3: Allocate instructional time and develop day to day time table.

Step.4: Plan the training strategy, Environment, Training methods

Step.5: Select relevant instructional material e.g. supportive literature, A. V. Aids etc.

Step.6: Evaluate all aspects of curriculum.

c. Selecting appropriate training methods

A training method can be understood as an instrument or a technique that a trainer employs for delivering training content or for facilitating the learning process, in pursuance of predetermined learning objectives. In other words, training methods are the means through which communication message reaches to the trainees. ***If curriculum is the heart of a training programme, training methods can be described as the arteries or veins of the training programme through which training message reaches the trainees and trainers receive concurrent feedback.***

The choice of appropriate training method is required to be guided by the level and background of trainees as well as by the training curriculum and the time available for training.

In the choice of appropriate training methods, there must be emphasis on 'learning by doing'.

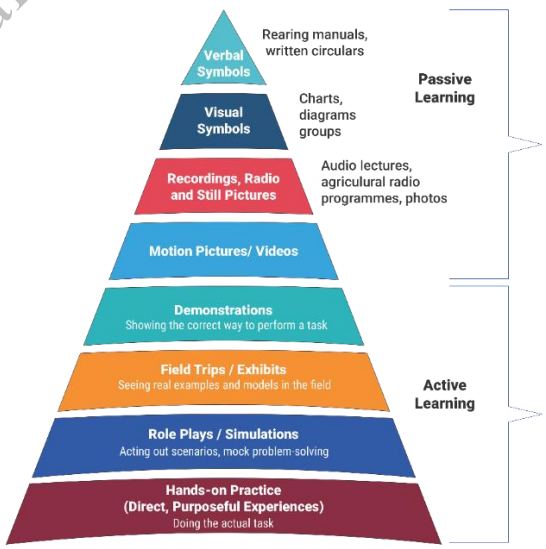


Fig 1.6 : Edgar Dale's Cone of experience

Adapted from Edgar Dale's Cone of experience

Dale's model suggests that:

- Learners retain **less from passive methods** like lectures and reading.
- Learners retain **more from active, participatory methods** like demonstrations, discussions and hands-on practice.

Example: A farmer who only reads about a new seed treatment method may forget most of it. But if he watches a demonstration and then practices the technique in the field, he is more likely to understand and remember it.

Application in Extension Training Methodology

In extension training, particularly with farming communities, Dale's Cone of Experience has strong relevance because:

1. **Use of practical, hands-on methods:** Farmers learn best through **direct experience.** Demonstrations in the field, result demonstrations and participatory trials are more effective than classroom lectures alone.
2. **Combining multiple methods:** Extension training should combine **showing, telling, and doing methods**. Example:
    - Start with a brief lecture (telling),
    - Show a video or demonstration (showing),
    - Then allow farmers to practice the technique themselves (doing).
3. **Improving retention and adoption:** When farmers engage directly with the new technology or practice, they develop confidence and are more likely to adopt it.
4. **Use of audio-visual aids:** Charts, poster and videos can support demonstrations, making abstract ideas easier to understand.

Functions of training methods:

1. **Assist in creating an appropriate learning environment:** Use of an appropriate training method stimulates the participants and sustains their interest in the training activity. It arouses their curiosity. Thus, it helps in creating and sustaining an appropriate learning environment for a particular topic.
2. **Enhance participation and involvement of the group:** A training method aims to enhance the process of learning by energizing and motivating the participants for greater contribution and involvement in the training process.

3. **Promote group interaction and cohesion:** Increased participation and involvement of the participants in training activities promotes interaction and cohesion among participants.

Classification of training methods:

Common Extension Training Method are

1. **Lecture** is an effective method for conveying facts and concepts to large groups. Example: A training session on the basics of soil health where an expert explains soil nutrients and their importance to farmers.
2. **Demonstration**: Showing "how to do" a task through actual performance; includes method demonstration (showing the process) and result demonstration (showing the outcome).

   Example: A field agent demonstrates the correct way to apply pesticides on crops and later shows the difference in crop health after proper application.
3. **Discussion Techniques:** Methods like group discussion, case discussion and panel discussion encourage active participation and sharing of ideas.

   Example: Farmers discussing problems they face with pest management and sharing solutions during a group discussion session.
4. **Management Games / Simulated Exercises** are used to practice decision making and problem-solving in a controlled, risk-free environment.

   Example: A simulated market game where farmers decide crop sales based on fluctuating market prices to understand marketing strategies.
5. **Symposium, Workshop, Conference:** Different formats for exchanging knowledge and experiences among experts and participants.

   Example: A workshop on organic farming where farmers and specialists discuss techniques and challenges, or a conference where research findings are presented to extension workers.
6. **Field Trips / Study Tours:** Providing firsthand exposure to successful practices and innovations by visiting farms or research centers.

   Example: A visit to a model farm practicing drip irrigation to help farmers see its benefits directly.
7. **Audio-Visual Aids:** Use of videos, charts, slides, and pictures to improve understanding and retention of information.

   Example: Showing a video on integrated pest management during a community training session to visually explain the concept.

   Always remember that Hands-on learning is very effective in agriculture.

d. Resources required for training

The trainer must ensure that all the needed resources are ready, such as:

- **Training venue or location (indoor/outdoor, accessible, equipped)**

Training can take place at KVKs (Krishi Vigyan Kendras), Village Panchayat Bhawans, Demonstration farms etc. The location should be easy to reach and have basic facilities like seating, electricity, water, etc.

- Training materials (pamphlets, booklets, manuals etc.)
- Human resources (resource persons, facilitators)
- Audio-visual aids (projector, screen, boards, speakers)
- Refreshments, chairs, stationery, accommodation etc.
- Transportation (for field visits or participants)

e. Training schedule preparation

A training schedule is like a timetable. It includes:

- Dates and timings
- Topics to be covered each day
- Names of trainers'/resource persons
- Practical sessions

The schedule should match the availability of trainees (e.g., not during busy farming seasons).

B- Training Phase

The implementation phase consists of two sub-phases.

a. Training preparation

b. Actual implementation of training programme

a. Training preparation/planning

This sub-phase involves all the necessary actions and arrangements to get ready for the actual delivery of the training programme. Proper preparation ensures that the training runs smoothly and meets its objectives.

Key activities in this phase include:

1. **Pre-training contact with participants:** Establish communication with the trainees before the programme starts. This can include sending invitations, sharing the training schedule, informing them about the venue and clarifying expectations. This helps participants prepare mentally and logistically for the training.

2. **Preparation of timetable:** Develop a detailed training schedule or timetable specifying session timings, topics, trainers, breaks, and activities. A well-structured timetable ensures balanced content delivery and proper time allocation to each session.
3. **Handing over training material:** Prepare and distribute all necessary training materials such as manuals, handouts, charts, audio-visual aids, and other resources. These materials support the learning process and help participants follow along.
4. **Selection of resource persons:** Identify and confirm competent experts or resource persons who will conduct the training sessions. Their expertise and teaching skills are vital to the quality of the training.
5. **Duty chart for supporting staff:** Assign roles and responsibilities to supporting staff (logistics, hospitality, technical support) to manage venue setup, equipment, refreshments, and participant assistance. A clear duty chart helps coordinate efforts efficiently.
6. **Board and lodging facilities:** Arrange accommodation, meals, and other necessary facilities for trainees and trainers, especially for residential or multi-day programmes. Comfortable lodging promotes a positive learning environment.
7. **Finance and Budget:** Plan and allocate funds for the training programme, covering expenses like venue, materials, trainers' fees, travel, accommodation and other logistics. Budgeting helps avoid last-minute financial issues.
8. **Time management of participants:** Coordinate with participants to ensure their availability during the training period and minimize work conflicts. Proper time management increases attendance and engagement.

b. Actual implementation of training programme

This sub-phase involves the real-time delivery and management of the training sessions, ensuring smooth execution and effective learning.

Key activities during actual implementation include:

1. **Arrange for reception of trainees:** Welcome the participants warmly on arrival, help with registration, provide information about the schedule and facilities, and address any immediate concerns. A friendly reception sets a positive tone for the training.
2. **Make a caretaker available:** Assign a person or team to look after the participants' needs throughout the programme handling logistics,

resolving issues, and providing assistance. This ensures trainees feel supported and comfortable.

3. **Get informal feedback from trainees:** Regularly seek informal feedback during breaks or sessions to gauge participant understanding, satisfaction, and any difficulties. This helps trainers adjust methods or clarify concepts promptly.
4. **Promote a professional training environment:** Maintain discipline, encourage active participation, respect diverse opinions, and create a conducive atmosphere for learning. A professional environment motivates trainees to engage fully.
5. **Take action promptly:** Address any logistical, content-related, or participant issues immediately to prevent disruption. Quick problem-solving ensures the training stays on track and participants remain focused.

Implementation phase consists of actual delivery of training programme. After the selection of an appropriate method, the actual functioning takes place. Under this step, the prepared plans and programmes are implemented to get the desired output.

C-Post Training Phase

Evaluation is a process of examining how far the objectives of the training programme have been achieved. It also involves analyzing the strength and weakness of the programme, reactions of the participants and its overall impact on behavioural change of the participants.

Methods of Evaluation

1. **Pre- and post-tests:** Measure knowledge or skills before and after training to check learning gains.
2. **Observation:** Trainers observe participant behaviour during activities and practice sessions.
3. **Performance assessment:** Evaluate participants' ability to perform tasks taught during training.
4. **Surveys and questionnaires:** Collect participants' opinions on training content, delivery, and environment.
5. **Group discussions:** Informal sharing of experiences and suggestions for improvement.

Feedback is information collected from participants about their experiences during the training. It reflects satisfaction, relevance and suggestions for improvement.

Ways to Collect Feedback

- Written feedback forms at the end of the programme.
- One-on-one interviews or discussions.
- Anonymous suggestion boxes.
- Quick feedback tools (rating scales, etc.).

Follow-up activities are actions taken after the training to reinforce learning and evaluate its practical application.

Follow-Up Activities

1. **Field visits: V**isit participants' workplaces or farms to observe changes.
2. **Refresher courses:** Short additional trainings to strengthen knowledge and skills.
3. **Support groups:** Create networks or farmer groups to share experiences and challenges.
4. **Monitoring reports:** Participants submit reports on how they are using the training in their work.

Activities

Activity 1: Demonstrate the process of delivering theoretical and practical training modules.

Material Required:

Notebook, Pen/Pencil, Chart paper, Pictures (optional), Sketch pens/Colours.

Procedure:

- Select a process that need to explain and demonstrate.
- Create a learning environment and explain the purpose of the training.
- Briefly explain the topic using charts, posters or oral explanation (theoretical part).
- Demonstrate the practical activity step by step of your activity (e.g., compost preparation, seed treatment, tool use, etc.).
- Encourage learners to observe carefully and ask questions.
- Allow participants to practice the demonstrated activity.

Check Your Progress

Fill in the Blanks

1. Training helps to increase _____ and _____ of a person.
2. _____ bridges the gap between employee ability and job demands.
3. Training is a _____ process.
4. Flippo defined training in the year _____ .
5. Experiential Learning Cycle has _____ stages.

Multiple Choice Questions

1. Training is mainly concerned with:
   a. Entertainment
   b. Specific skills
   c. Free services
   d. Recreation
2. Who defined training as a systematic process to change behaviour?
   a. Flippo
   b. Taylor
   c. Drucker
   d. Hammond
3. Agricultural training programmes mainly help:
   a. Teachers
   b. Traders
   c. Doctors
   d. Farmers and rural youth
4. Which is the first stage of the Experiential Learning Cycle?
   a. Processing
   b. Application
   c. Experience
   d. Closure
5. SMART objectives are:
   a. Simple and short

b. Fast and flexible

c. Specific and measurable

d. Easy and cheap

Match the Following

Column A	Column B
1. Climate Setting	a. Planning before training
2. Experience	b. Hands-on activity
3. Pre-training phase	c. Friendly learning environment
4. SMART	d. Clear training objectives
5. Evaluation	e. Checking training results

Subjective Questions

1- What is training? Exolain Importance of training.

2- Describe process of training and planning.

Session 2: Report Writing and Presentation Skills

For ASEP, learning to write a training report is essential as it ensures systematic documentation of objectives, activities, outcomes and challenges of the programme. A well-prepared report not only demonstrates accountability to stakeholders and funders but also helps in evaluating effectiveness, identifying gaps and planning future improvements. This session helps extension service providers to gain understanding of systematically document and present the results of their training programmes.

Preparation of training report

What is a Training Report?

A training report is a formal document that summarizes the entire training programme conducted. It provides a detailed account of the training objectives, activities, participants, outcomes, challenges and recommendations. It serves as evidence of the training effort and helps stakeholders evaluate the effectiveness and impact of the programme.

Purpose of a Training Report

- To document what was planned and what actually happened during the training.

- To assess whether the training objectives were achieved.
- To provide feedback for improving future training programmes.
- To justify the use of resources and funding.
- To share learning and insights gained from the training.

Structure of a Training Report

A training report is an essential document prepared at the conclusion of a training programme. It serves as an official record of the event, its objectives, activities, participants, outcomes, and recommendations for the future. A well-structured training report ensures transparency, provides valuable insights, and acts as a reference for future training programmes. The following sections typically constitute a complete training report:

1. **Title Page:** The title page provides the basic information about the training programme. It generally includes:
   - The name of the training programme.
   - Dates and venue of the programme.
   - The name of the organizing agency or institution.
   - Name and designation of the person preparing the report.
2. **Executive Summary**: The executive summary presents a concise overview of the training programme. It briefly highlights the objectives, key activities conducted and the major outcomes achieved. This section is written in a manner that a reader can understand the essence of the training without going through the entire report.
3. **Introduction:** The introduction gives the
   - Background and rationale for conducting the training
   - Objectives of the training programme
4. **Main text**
   - Training details which includes date, venue**,** training schedule, training methods and training activities, resource persons, training materials and aids used
   - Participants information which includes Number of participants, their demographic details (age, gender, occupation etc)
   - Course content / sessions conducted includes description of each session or module, topics covered along with name of experts

5. **Evaluation and Feedback**
   - Methods of evaluation (pre-post knowledge tests, practical demonstrations, opinion questionnaire)
   - Summary of participant feedback
   - Trainer's observations
6. **Outcomes and Impact**
   - Knowledge/skills gained by participants
   - Behavioural changes observed (if any)
   - Immediate benefits and possible long-term impacts
7. **Recommendations**
   - Suggestions for future training improvements
   - Follow-up actions required
8. **Conclusion**
   - Overall summary and remarks on the training's success.
9. **Annexures**
   - Attendance sheets
   - Photographs
   - Training materials
   - Feedback forms

Key points to remember while preparing a training report

1. **Be clear, concise, and objective**

   Clear: Use simple and straightforward language so the reader can easily understand the information. Avoid complex sentences and jargon.

   Concise: Present only the necessary information. Do not add unnecessary details or long explanations that can distract from the main points.

   Objective: Adhere to facts instead of personal opinions or emotions. Write neutrally and focus on what actually happened.

   Example: Instead of writing *"The training was extremely enjoyable and I think everyone loved it,"* write *"90% of participants rated the training as satisfactory or above."*

2. **Use factual data and evidence wherever possible**

   Support the information with numbers and facts. Evidence-based reporting makes the document credible and trustworthy.

Example: Write *"35 farmers participated in the training"* rather than *"many farmers attended."*

3. **Include charts, tables, and graphs to represent data effectively**

   Visuals make data easier to understand and analyse. Visual representation also saves space and makes the report more engaging.

   Example: Show participant feedback percentages in a pie chart instead of writing them in a long list.

4. **Maintain professional and formal language**

   Professional language adds credibility to the report.

   Example: Write *"The training session began at 10:00 AM"*,

5. **Proofread for errors and ensure completeness**

   Check for spelling, grammar and formatting errors before submitting the report.

6. **Tailor the report to the audience**

   Consider for whom you are preparing the report and focus on what is most important to them.

- **Funders:** Emphasize use of funds, impact and outcomes.
- **Organizers:** Highlight the process, coordination and participation.
- **Participants:** Summarize learning outcomes and future benefits.

Example: A report for funders may include detailed financial data, while the same report for participants may focus more on the skills they gained.

Key Points to Remember While Preparing a Training Report

- Be clear, concise, and objective.
- Use factual data and evidence wherever possible.
- Include charts, tables and graphs to represent data effectively.
- Maintain professional and formal language.
- Proofread for errors and ensure completeness.
- Tailor the report to the audience.

Activities

Activity - Prepare the Report on Event Organized at School

Material Required:

Notebook, Pen/Pencil, Chart paper, Sample report, Blackboard/Whiteboard.

Procedure:

- Ask students to select a school event (e.g., sports day, plantation drive, exhibition).

- Note important details of the event (date, place, purpose, participants).
- Write the title of the report at the top.
- Write the introduction of the event in short sentences.
- Describe the activities of the event step by step.
- Write the conclusion and learning from the event.
- Check the report for neatness and completeness.

Check Your Progress

Fill in the Blanks

1. A _____report is a formal document.
2. The _____ summary gives a brief overview of the training.
3. The _____ page includes the name of the organizing agency.
4. _____ may include attendance sheets and photographs.

Multiple Choice Questions

1. Which section gives a short summary of the training?
   a. Introduction
   b. Annexure
   c. Executive summary
   d. Conclusion
2. Which of the following is part of the title page?
   a. Feedback forms
   b. Photographs
   c. Training Title
   d. Evaluation methods
3. Participant details are included in the:
   a. Main text
   b. Title page
   c. Annexure
   d. Conclusion
4. Pre-post tests are used in:
   a. Introduction

b. Conclusion

c. Annexure

d. Evaluation

5. Which section talks about skills gained by participants?

a. Outcomes and impact

b. Title page

c. Introduction

d. Executive summary

6. Proofreading is done to avoid:

a. Meetings

b. Errors

c. Charts

d. Feedback

Match the Following

Column A	Column B
1. Title Page	a. Attendance sheets
2. Executive Summary	b. Basic programme information
3. Evaluation	c. Pre-post tests
4. Outcomes	d. Skills gained
5. Annexures	e. Brief overview

Subjective Questions

1. What is a training report and why is it important?
2. Describe any four main sections of a training report.

Module 2 Assisting Farmers in Establishing Linkages and Agri-Business Practices

Module Overview

In the context of farmers and rural communities, capacity building through effective training programmes plays a vital role in improving agricultural practices, ensuring livelihood security and promoting rural well-being. This unit will guide through the process of planning and structuring training programmes systematically, ensuring smooth execution and evaluating outcomes using appropriate tools and techniques. By mastering these skills, extension professionals can design learner-centred and result-oriented training programmes that lead to sustainable change in the target community.

This module introduces students to the concepts and practical importance of agri-credit, agribusiness, and agripreneurship in strengthening farmers' livelihoods and promoting agricultural development. In Session 1, students will explore the concept and importance of agri-credit and agribusiness/agripreneurship, focusing on how access to finance and entrepreneurial skills support farm enterprises and encourage value addition in agriculture. In Session 2, the module highlights forward and backward linkages in agriculture, helping students understand how connections with input suppliers, processors, markets, and consumers improve efficiency, reduce risks, and ensure better returns for farmers.

Learning Outcomes

After completing this module, you will be able to:

- Explain the concept and importance of agri-credit, agribusiness, and agripreneurship in supporting farm enterprises and improving farmers' income.
- Describe forward and backward linkages in agriculture and analyze their role in strengthening agricultural value chains and market access for farmers

Module Structure

Session 1: Concept and Importance of agri credit and agribusiness / agriprenuership

Session 2: Forward and Backward Linkages in Agriculture

Session 1: Importance of agri credit and agribusiness/agriprenuership

Agri-business

"Agribusiness is the coordinating science of supplying agricultural production inputs and subsequently producing, processing and distributing food and fiber." – E. Paul Roy.

Agri-business practices go a step further. It involves managing agriculture as an enterprise including planning production, reducing costs, adding value through processing, and exploring new market opportunities. Together, linkages and agri-business practices have the potential to help farmers move from subsistence farming to profitable and sustainable livelihoods. Agribusiness has three distinct sectors which can be economically independent to each other in terms of activities/operations undertaken. These three sectors are namely input sector, the farm sector and the product sector.

1. The input sector includes supplies which may include seed, fertilizer, chemicals, machinery, fuel and feed, consultancy services etc. to farmers for production.
2. The farm sector operations include all activities linked with production on farm itself.
3. The product sector includes processes and distributes the crops and livestock products to the final consumers.

Thus, it could be concluded that 'Agribusiness is the sum total of all operations involved in the manufacture and distribution of farm supplies, production operations on the farm and the storage, processing & distribution of farm commodities and items made from them'. For example, when a farmer grows sugarcane and sells it to a sugar mill, it is called a forward link. The mill then makes sugar and sells it further. This chain of steps adds more value. All these activities together are called agri-business.

Features of Agribusiness

a. **Diverse nature of business::** Agribusiness includes many kinds of work. Some people grow crops and rear animals, some act as middlemen like wholesalers and brokers, while others work in processing, packing, storing, or transporting farm products. Banks and other financial companies also support farmers. Shops, markets, and food chains are also part of agribusiness.

b. **Located Near Farming Areas:** Majority of agribusiness activities/operations happen near places where farmers live and work. This is because millions of farmers produce hundreds of types of food and fibre products. Being close to the production area helps in easy buying, selling, and processing of farm goods.

c. **Direct Link with Farmers:** Agribusiness is special because it deals directly or indirectly with farmers. Very few other industries depend so closely on the farmers/producers of raw materials like crops and livestock.

d. **Variety and Size of Agribusinesses:** Agribusinesses can be of many sizes. Some are run by a single person or a small family. Others are big companies. However, most agribusinesses are small when compared to other industries.

e. **Open Competition:** In agribusiness, there are usually many sellers and buyers. This creates an open competition. No single company can control the whole market. It is also not easy to make farm products very different from each other, which makes competition fair for everyone.

f. **Agri-business units are mostly subsistence** In our country most of the agribusinesses are small and subsistence based in nature and own and run by family.

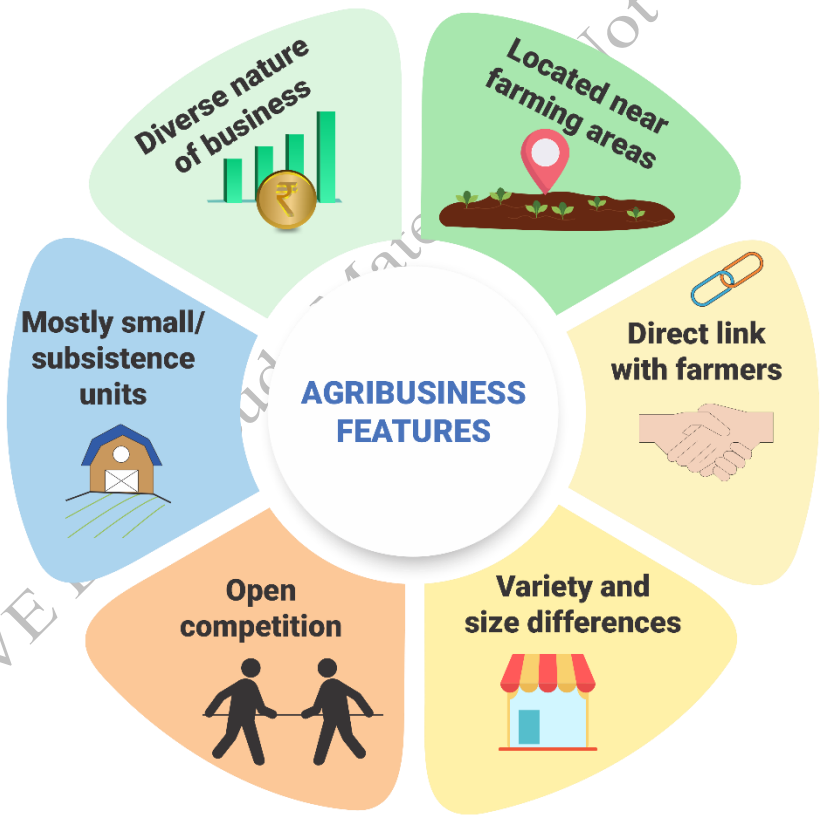


Fig 2.1

Why Agri-Business is Important?

Farmers face many problems like low prices and lack of good markets. Agri-business practices help solve these problems in many ways:

- Farmers can store and process their crops properly, so less food is wasted.
- They can earn better prices by selling in the right markets.
- They can work with industries like food factories, textile mills, and export companies.
- Agri-business helps in overall processing of farm produce including field crop, tree crops, livestock, fisheries.
- New jobs are created for village youth in work like packaging, transport, and marketing.

Key Components of Agri-Business Practices

- **Input Supply:** Farmers need many things before they can start farming. They need good seeds, fertilizers, pesticides, simple farm tools, and sometimes loans. Companies, cooperatives and government centres help by giving these things.
- **Production:** This is the main farming work. Farmers grow crops, rear animals, or produce milk and fish. Today, many farmers use better methods like drip irrigation to save water, organic farming to keep the soil healthy, and improved seeds to get more yield.
- **Post-Harvest Management and Marketing:** When crops are ready, farmers have to clean, sort and pack them. They also need safe places to store the produce and a way to send it to markets. Cold storages, warehouses, food processing units, and farmer-producer companies help farmers sell their goods at a fair price.

Farmer Producer Organisations (FPOs)

Farmer Producer Organisations (FPOs) help small and marginal farmers come together as a group so that they can sell their crops and buy farm inputs in a better way. Instead of each farmer working alone, an FPO connects farmers with markets, companies, banks and government schemes. Many FPOs are now being managed professionally like companies. They gather information about markets, plan production and negotiate with big buyers like food companies or supermarkets. With support from the government and other organisations, FPOs can give farmers training, loans and help them meet quality standards. This makes it easier for farmers to sell more products, earn better income and become part of modern supply chains.

Agri-Clinics (AC) and Agri-Business Centres (ABC)

The Government of India started the Agri-Clinics and Agri-Business Centres (ACABC) scheme to help farmers and create jobs for educated youth in rural areas.

What are Agri-Clinics (AC)?

These are centres started by trained agriculture graduates. They give advice and services to farmers. For example, they guide farmers about better seeds, soil health, crop diseases, fertilizers, irrigation methods, and modern farming techniques. They also help farmers improve production and reduce losses.

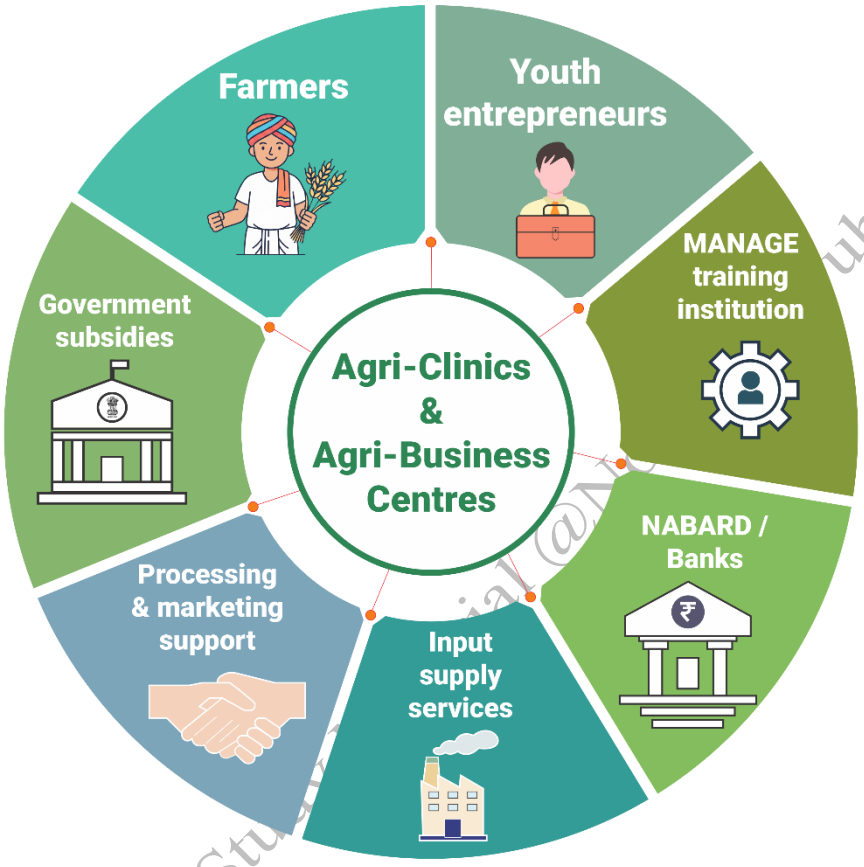


Fig 2.2

What are Agri-Business Centres (ABC)?

These are small businesses set up by trained youth. They sell farm inputs like seeds, fertilizers, and tools. They also offer services like renting tractors, soil testing, or post-harvest storage. Some centres even do food processing, packaging, or help farmers in marketing. The National Institute of Agricultural Extension Management (MANAGE) trains young agriculture graduates whereas NABARD (National Bank for Agriculture and Rural Development) and other banks give loans and financial help to start these centres. The government provides subsidies and guidance so that more youth join and farmers benefit.

Importance of AC and ABCs?

- Farmers get expert advice and easy access to inputs.
- Rural youth get self-employment opportunities.

- Agriculture becomes more modern and profitable.
- It helps in reducing unemployment and strengthens the link between farmers and markets.

Government Schemes to strengthen farmer linkages and Agri-Business

The government of India has launched various schemes and policy initiatives aimed at strengthening farmer linkages, and for agri-business development. These interventions are designed to improve productivity, promote market oppurtunity and enable value addition across the agricultural value chain. Key initiatives are:

a. **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN):** This scheme provides direct income support to small and marginal farmers through the transfer of a fixed amount to their bank accounts. The objective is to enable farmers to meet essential cultivation expenses such as seeds, fertilizers, and other inputs.

b. **Pradhan Manti Formalization of Micro Food Processing Enterprises (PM-FME):** The PM-FME scheme supports the formalization and growth of micro food processing units engaged in activities such as pickle making, papad production, and small flour mills. By providing capacity building, financial and technical assistance, the scheme facilitates improved processing, packaging, and market competitiveness of food products.

c. **Pradhan Mantri Fasal Bima Yojana (PMFBY):** PMFBY is a crop insurance scheme by the Department of Agriculture, and Farmers' Welfare. The scheme aims to provide financial protection to farmers against crop loss due to natural, pest and diseases. This helps farmers to stabilise the income of farmers and encourage them to adopt modern and innovative agricultural technologies. This scheme focus on crop diversification and credit worthiness of the farmer, enhance growth and competitiveness of the agriculture sector.

d. **Electronic National Agriculture Market (e-NAM):** e-NAM is a pan-india electronic trading platform that integrates existing agricultural markets in to a unified national market for agricultural commodities and enable farmers to sell their produce to buyers across country. It facilitates online trading and transparent price discovery for farmers. By enhancing price discovery and reducing dependence on local middlemen, e NAM contributes to improves market access and better price realization.

e. **Agriculture Export Policy:** This policy framework seeks to promote the export of agricultural commodities such as rice, fruit, vegetables, and

spices. By focusing on value addition, market diversification, and improved logistics, the policy aims to generate higher farm incomes, create rural employment opportunities, and enhance India's global agricultural footprint.

f. **Rashtriya Krishi Vikas Yojana- Remunerative Approaches for Agriculture and Allied Sector Rejuvenation (RKVY-RAFTAAR):** RKVY-RAFTAAR supports connecting farmers to market by fostering agri-business entrepreneurship, improving post-harvest infrastructure, and promoting innovation to help farmers access markets, reduce post-harvest losses, and increase income. This scheme supports innovation in the agricultural sector, which can lead to new business models and platforms that improve farmer connections to consumer and markets.

g. **Cluster Development Programme (CDP):** This is cluster-based approach to integrate horticulture production with domestic and international value chains. By investing in logistics, branding, post-harvest management, and marketing infrastructure, the programme promotes market-led production, supports value addition, and enhances farmer income through creation of cluster specific brands.

h. **VISTAAR** VISTAAR represents a next-generation, interoperable digital network aimed at democratizing agricultural knowledge and empowering farmer participation. Leveraging artificial intelligence and federated platforms, it facilitates access to verified content, best practices, and agri-skilling initiatives. VISTAAR's collaborative model seeks to drive systematic innovation and enable a more inclusive agricultural transformation.

Activities

Activity 1: Develop Inventory of Crop Insurance/Credit Schemes

Material Required:

Notebook, Pen/Pencil, Chart paper, Information from books/teachers, Sketch pens.

Procedure:

- Explain the meaning of crop insurance and credit schemes.
- List names of crop insurance and credit schemes available locally.
- Collect basic details of each scheme (purpose, beneficiary, benefit).
- Write the information neatly in a notebook or chart paper.
- Classify schemes into insurance and credit schemes.
- Discuss how these schemes help farmers.
- Allow students to ask questions and clarify doubts.

Activity 2: Visit Nearby Agri Startups/FPO and Interaction with Them

Material Required:

Notebook, Pen/Pencil, Permission letter, Questionnaire.

Procedure:

- Identify a nearby agri startup or FPO.
- Take permission for the visit from school authorities.
- Prepare simple questions about their work and services.
- Visit the agri startup/FPO with teacher guidance.
- Observe their activities and services.
- Interact with members and ask prepared questions.
- Note important points in the notebook.
- Discuss learning after returning to school.

Check Your Progress

Fill in the Blanks

1. The _____ sector supplies seeds and fertilizers to farmers.
2. Processing and distribution are part of the _____ sector.
3. Selling sugarcane to a sugar mill is a _____ link.
4. ACABC scheme creates jobs for _____ .

Multiple Choice Questions

1. Who defined agribusiness as a coordinating science?
   a. Drucker
   b. Taylor
   c. Paul Roy
   d. Flippo
2. Which sector provides inputs like seed and fertilizer?
   a. Product sector
   b. Farm sector
   c. Market sector
   d. Input sector
3. Which sector grows crops and rears animals?
   a. Farm sector
   b. Product sector
   c. Input sector
   d. Service sector
4. Agribusiness activities mostly occur near:

a. Cities
b. Ports
c. Farming areas
d. Offices

5. Which group helps small farmers work together?
   a. NABARD
   b. FPO
   c. MANAGE
   d. Bank
6. Agri-Clinics mainly provide:
   a. Loans
   b. Seeds
   c. Storage
   d. Advice to farmers
7. Which scheme provides online market trading?
   a. PMFBY
   b. PM-KISAN
   c. e-NAM
   d. PM-FME

Match the Following

Column A	Column B
1. Input sector	a. Selling produce
2. Farm sector	b. Seeds and fertilizer
3. Product sector	c. Crop production
4. FPO	d. Farmer group
5. e-NAM	e. Online market

Subjective Questions

1. What is agribusiness? Describe the sectors of agribusiness.
2. What is FPO? Describe the role of Farmer Producer Organisations (FPOs).

Session 2: forward and backward linkages in agriculture

Linkages

“Linkages refer to the connections farmers build with different stakeholders such as input suppliers, markets, financial institutions, agricultural cooperatives, government agencies, and agri-tech platforms”.

In general, in context of farming these linkages could be of two type;

1. **Backward production linkages:** This linkage starts from the input providers for agriculture production and includes all farm operation till production. For example, Information on input includes activities like Information on layout and land preparation, Nutrient management, Irrigation management, weed management, Integrated Pest management (IPM), machinery and processing. Physical input includes varieties/Hybrids, Nutrients (NPK), Organic fertilizers, Bio-Fertilizers/Fungicides, Plant Protection chemicals and Growth regulators/Hormones. Financial requirement includes government, commercial banks, cooperatives, non-banking financial companies (NBFCs), money lenders and traders. Technical Guidance includes activities like improved variety/Hybrids, Production technology, Weather information, Market information and Processing etc.
2. **Forward production linkages:** This linkage starts after the production process. The processing of agricultural produce, value addition, distribution, marketing, selling are major part of forward production linkages. For example forward linkages based on farming activity may be categorized into Harvesting and Processing, Marketing and Storage. Harvesting and processing activity includes Maturity of harvesting, Time of harvesting, Duration of harvesting, Grading, Processing, Storage, Transportation etc. Marketing activity includes time of marketing and place of marketing

Linking farmers to markets

The concept linking involves whole range of operations starting from grassroots to open markets. The scale and volume at each level vary. The linkage does not mean a one shot sale. It is for the development of long-term business relationships. The linkage could be understood as a process to link farmers with potential buyers. It may also include arranging for meeting of the farmers with small-scale traders so that they themselves can seek out new suppliers or existing suppliers.

Farmers can create different kinds of linkages. They can join government programmes like e-NAM (National Agriculture Market), where farmers can sell online to buyers across India. They can also become members of farmer-producer organisations (FPOs), which help them sell in bulk and get better rates. Private companies also work with farmers through contract farming, where farmers grow crops as per company requirements and get assured payments. Banks and cooperatives give loans, credit and crop insurance. Technology providers help farmers with weather forecasts, soil testing, and mobile apps for better decisions. Keeping all this in mind the linkage can be categorized in various ways, as follows;

1. **Farmers to Local Trader Linkages:** Small and marginal farmers often sell their crops directly to traders operating in the village or nearby markets because they have limited access to resources, information, and infrastructure. These traders then sell the produce to larger markets or cities. While this arrangement is convenient and offers immediate cash returns but it results in lower farm-gate prices, as traders exploit the small quantities and weak bargaining power of individual farmers. If farmers join together and sell in bulk directly to larger markets, they can get better price realization.
2. **Farmer to Retailer / Supermarket Linkage:** Organized retailers, big shops and supermarkets demand a consistent supply of agricultural products in bulk quantities to make value-added products like juice, oil, butter, ketchup, jam, chips etc., often preferring long-term or contractual arrangements with farmers. Such linkages require adherence to stringent standards of quality, cleanliness, grading, sorting and timeliness. In return, these linkages provide farmers with assured market access and potentially higher prices. For Example, farmers cultivating special potatoes for multinational fast food chains.
3. **Farmer to Agri-Processor Linkage:** Agri-processing companies procure raw agricultural produce to manufacture value-added products such as juice, jam, ketchup, oil, butter, and chips. These processors generally require year-round supply of storable produce. Sometimes companies provide embedded services like input provision (seeds, fertilizers), training, and credit facilities. In return, farmers commit to supply the produce on time and as per quality standard. The direct link between farmer to Agri-processing units can be beneficial to farmers.
4. **Farmer to Exporter:** Export-oriented firms procure agricultural commodities for international markets. These export linkages require strict compliance with global standard related to quality, residue levels, safety and packaging. Farmers engaged in export markets rely on technical assistance, and capacity building from companies, cooperatives, and NGOs to meet these export standards. For example, mangoes, spices, and processed food sold abroad through various platforms. This linkage with exporters can help farmers access premium markets with better price realization.
5. **Linkages through a leading/progressive Farmer:** Sometimes, large-scale or bigger farmers act as aggregators for small producers in the village. These lead farmers collect produce from small farmers and negotiate sales in bulk with trader. Thus, they help small farmers to overcome challenges of market entry while providing better farm-gate value.

6. **Linkages through Cooperatives / Framer Groups:** Framer cooperatives and producer organization play an important role in strengthening collective bargaining power and improving market access. They pool produce, share resources and collectively buy inputs, and sell in bulk. They also facilitate transport, storage, processing and value addition. Some cooperatives fail if there is poor governance and break off of external.

When these linkages are strong, farmers can access better seeds, credit, storage, technology, and fair markets. To develop or to help linkage of smallholder farmers to markets, one must:

- First, find out what types of markets exist nearby and what kinds of farmers live there for example, small, medium, or large farmers.
- Secondly understand the factors that affect access of farmers to market, such as location, farm produce, access to roads and transport.
- Decide for establishing linkage which approach to use one that targets farmer groups or the one targets individual farmers.
- Consider farmers' characteristics such as age, gender, number of years in farming and skills.
- Assess the factors such as market demand of produce, production conditions, the business environment in that area, interests of traders to work with organized smallholders.
- Based on above, help farmers decide which crops or products they should focus on and which markets will give them the best returns.

Assisting Farmers in Establishing Linkages

We may have seen or heard about a farmer growing high-quality tomatoes in a remote village. We may also have heard how he works tirelessly, yet his income depends not only on the crop but also on how and where he sells it. In majority of the situations farmers are have to sell produce to a middleman at lower rates. All their hard work brings little reward. Now imagine a scenario where the same farmer has access to multiple buyers, wholesalers, retailers, food processing companies, or even direct consumers. This scenario can assure a fair price for the produce assuring his income and increase in the confidence.

Given the advent Information and Communication Technology (ICT) the traditional way of production and selling of crops and livestock needs change. Most of the farmers having small or marginal land for them adopting modern technology promptly may not be a feasible option with given financial constraints. The solution to this issue could be establishing better linkages and coordination among farmers, processors, retailers and others in the

supply chain. The global market is open thus; it gets far more important to assist farmers in establishing linkage to be part of supply chain.

Activities

Activity: Illustrate Supply Chain Model of a Given Crop and Indicate Forward and Backward Linkages

Material Required

Notebook, Pen/Pencil, Chart paper, Sketch pens/Colours.

Procedure:

- Select one crop (e.g., rice, wheat, tomato).
- Write the name of the crop on chart paper.
- List input providers (seed, fertilizer, tools).
- Draw the flow from inputs to farmer (backward linkage).
- Draw the flow from farmer to market and buyer (forward linkage).
- Use arrows to show the supply chain steps.
- Label each step clearly.
- Explain the diagram in simple words

Check Your Progress

Fill in the Blanks

1. _____refer to connections farmers build with different stakeholders.
2. _____ production linkage starts from input providers.
3. _____ production linkage starts after production.
4. _____ farming gives farmers assured payments.
5. Cooperatives help farmers improve _____ power.

Multiple Choice Questions

1. Which linkage deals with seeds, fertilizers and credit?
   a. Forward linkage
   b. Backward linkage
   c. Export linkage
   d. Retail linkage

2. Which activity is part of forward production linkage?
   a. Marketing
   b. Nutrient management
   c. Land preparation
   d. Seed selection
3. e-NAM allows farmers to sell produce:
   a. Only in villages
   b. Only to traders
   c. Online across India
   d. Only to exporters
4. Who provides loans and crop insurance to farmers?
   a. Retailers
   b. Banks and cooperatives
   c. Exporters
   d. Consumers
5. Supermarkets prefer farmers who supply:
   a. Small quantities
   b. Poor quality
   c. Bulk and graded produce
   d. Seasonal supply only
8. ICT helps farmers by improving:
   a. Weather and market information
   b. Crop colour
   c. Soil texture
   d. Land size

Match the Following

Column A	**Column B**
1. Backward linkage	a. Marketing and selling

2. Forward linkage	b. Inputs and production
3. e-NAM	c. Online trading platform
4. FPO	d. Collective selling
5. Exporter	e. International market

Subjective Questions

1. What are linkages in agriculture and why are they important for farmers?
2. Describe backward and forward production linkages with examples.
3. How do farmer-producer organizations (FPOs) help small farmers?

Module 3 Formation and Operation of Self-Help Groups, Farmers Interest Groups, and Producer Groups

Module Overview

In India, about 69 percent of the population resides in rural areas and depends on agriculture and allied activities for their livelihood. These rural communities often face numerous challenges, such as limited access to advanced agricultural technologies, institutional credit, markets, and exploitation by middlemen. These issues contribute to the slower pace of development in rural areas compared to urban regions of the country. The development of rural areas cannot be achieved through isolated individual efforts; rather, it requires the collective strength of community action. When people with similar challenges come together on a common platform to collaborate and support one another, they become capable to overcome many of the barriers that hinder agriculture growth and livelihood improvement in the rural societies. In this context, group-based models have gained global traction as tools for promoting rural development. These models foster social, economic, and technological empowerment by improving access to knowledge, credit, and markets, while encouraging entrepreneurship and cooperation. In India, platforms like Self-Help Groups (SHGs), Farmers Interest Groups (FIGs), and Producer Groups (PGs) have demonstrated significant success in enhancing financial inclusion, strengthening community institutions, and driving sustainable rural transformation.

This module introduces students to the formation, structure, and functioning of Self-Help Groups (SHGs), Farmers Interest Groups (FIGs), and Producer Groups (PGs) as important collective approaches for empowering farmers and rural communities. The module emphasizes how group-based organizations support mutual cooperation, access to resources, and improved livelihoods. In Session 1, students will learn about the formation process and operational aspects of SHGs, FIGs, and PGs, including group management, leadership, decision-making, and financial activities. In Session 2, the module focuses on various value-addition practices that enhance the quality, shelf life, and market value of agricultural produce, helping farmer groups improve income and competitiveness.

Learning Outcomes

After completing this module, you will be able to:

- Explain the process of formation and operation of SHGs, FIGs, and PGs and their role in strengthening collective action among farmers.
- Describe different value-addition practices and analyze how they contribute to increased income and market opportunities for farmer groups.

Module Structure

Session 1: Formation and Operations of SHGs, FIGs, and PGs

Session 2: Various Value-Addition Practices

Session 1: Formation and Operations of SHGs, FIGs, and PGs

1. Self Help Groups (SHGs)

A Self-Help Group is a small, informal group of people—primarily rural women—from similar socio-economic backgrounds, usually living in the same village or community. SHGs generally consist of 10 to 20 members, as small groups facilitate more interaction, better decision-making and mutual accountability among members. The National Bank for Agriculture and Rural Development (NABARD) defines an SHG as "*a voluntary association of rural poor individuals who regularly save small amounts of money, pooling their resources to create a common fund to meet the credit needs of group members both for income-generating activities and for emergency consumption purposes.*" Although more than 90 percent of SHGs in India are women-oriented, male-only or mixed-gender groups also exist in specific occupational or urban contexts.

The SHG model operates on principles like 'Unity is Strength' and 'Self Help through Mutual Help'. Members contribute regularly to a shared fund and use it to provide internal loans to one another, thereby reducing reliance on exploitative moneylenders and fostering financial self-discipline.

Objectives

The broad goals and objectives of SHGs can be summarized as follows:

- Promoting economic self-reliance through collective savings and credit access
- Encouraging a habit of regular savings
- Enhancing access to low-cost, timely credit facilities
- Reducing dependency on informal moneylending systems
- Enabling social empowerment through group participation and leadership

- Supporting entrepreneurship and micro-enterprise development
- Improving access to government welfare schemes
- Advancing community development through cooperative efforts

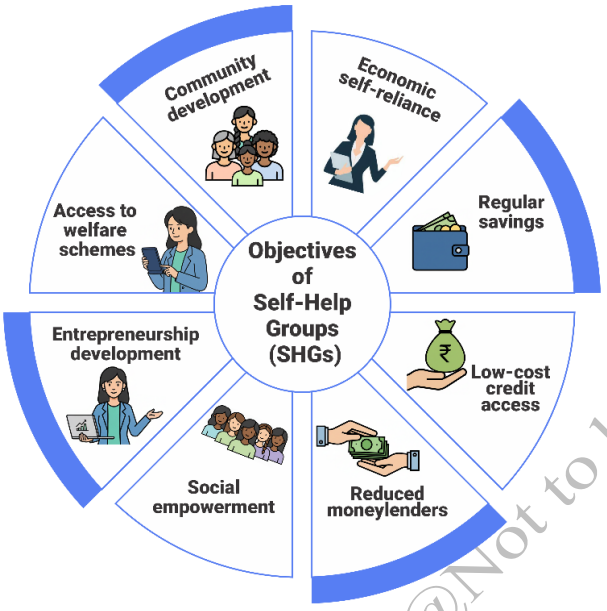


Fig 3.1

Formation and Operation

The process of SHG formation and its functioning, especially in remote or underprivileged areas, involves several key steps:

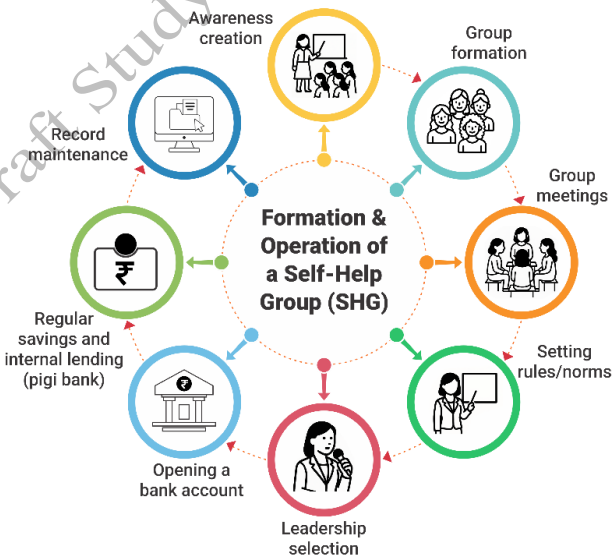


Fig 3.2

1. **Awareness Creation and Community Mobilization:** The first step is sensitizing rural communities, particularly women about the concept and benefits of SHGs. This is done mainly visiting poor and

marginalized families in the village and engaging them in meaningful conversations and community meetings. Facilitators should use real-life examples, visuals, and testimonials from successful SHGs to build interest and trust. Consistent engagement is often required to build trust and encourage participation.

2. **Group Formation:** Select 10–20 members from the same village or locality who share mutual trust and social cohesion. To promote harmony and efficiency in the functioning of SHGs, it is advisable to minimize the heterogeneity in members' economic background and social status, as this can help reduce internal conflicts. However, some diversity particularly, in age and educational levels of members can strengthen the group's long-term sustainability. Members should be between 18 and 60 years of age and must be willing to save regularly, participate actively in the group meetings and activities, and engage in income-generating activities supported by the SHG.
3. **Group Meetings and Consensus Building:** In this meeting, discussion should be focused on the overall objectives of the group, expectations from members, benefits of regular participation, and importance of cooperation, mutual respect, and discipline.
4. **Formulating Rules and Norms:** It is essential that members should mutually decide on group norms that will guide the functioning of SHG. The rules and norms should be discussed and agreed upon collectively to ensure transparency, inclusiveness, and a sense of ownership among members. The finalized norms should be documented in writing and signed by all members as a symbol of collective agreement.
5. **Leadership and Decision-making:** Once the group norms are established, elect the group leaders such as President, Secretary, and Treasurer democratically in accordance with the agreed-upon rules. It is important that leadership roles should be rotated periodically to encourage participation and skill development among all members. The roles and responsibilities of each position should be clearly defined. For example, the *President* leads group meetings, represents the SHG in external matters, and ensures overall coordination. The *Secretary* is responsible for maintaining records, managing communication, and supporting administrative tasks. The *Treasurer* handles the group's finances, maintains savings and loan records, and ensures proper bookkeeping. All major decisions such as internal lending, fund utilization, and conflict resolution should be made collectively, either through consensus or majority voting, to promote transparency and shared ownership.

6. **Open a Bank Account:** Once the group has become stable and the members are regularly participating, a joint bank account should be opened in the name of the SHG. This account must have two to three authorized signatories, usually the President and Treasurer, as per the group's norms. Opening a bank account is a crucial step for managing group savings, conducting internal lending, and establishing credibility with financial institutions. If needed, assistance can be sought from local banks, NGOs, or the National Rural Livelihoods Mission (NRLM) to complete the necessary documentation and formalities.
7. **Regular Savings and internal Lending:** Once the bank account is active, the group should begin regular monthly savings, with each member contributing a fixed amount. These small, consistent contributions help to build a collective fund over time. Once a reasonable savings has been accumulated, the group can start providing internal loans to its members to meet various personal, household, or livelihood-related needs. Timely repayment of loans is essential to maintain the group's financial health.
8. **Record Maintenance:** Maintaining simple, accurate, and up-to-date records is essential for the effective functioning and transparency of the SHG. Key records include the savings and loan register, minutes of meetings, attendance register, and a cash book to track financial transactions.

Registration of Self-Help Groups

In India, formal registration is not mandatory for SHGs to function. However, official recognition is often beneficial for accessing government schemes and bank linkages. SHGs can register under the National Rural Livelihoods Mission (NRLM) through the local Block Mission Office. Registered group receive an official ID, making them eligible for training, grants, and revolving funds. Additionally, SHGs undertaking business or contractual activities may choose to register legally under the Societies Registration Act, Indian Trusts Act, or state-specific cooperative laws.

For legal registration, documents like group bylaws, member list, meeting records, identity proofs, and photographs are to be submitted to the concerned registrar. While legal registration is not mandatory, it offers formal recognition and strengthens the group's ability to enter contracts, open enterprises, and access wider institutional support.

2. Farmer Interest Groups (FIGs)

Concept and Features

A Farmer Interest Group (FIG) refers to *a voluntary, self-managed association of farmers who come together based on their common interests in particular*

crops, agricultural enterprises, or farming practices. Like SHGs, FIGs are also small groups of 15-20 members. However, unlike SHGs, which primarily focus on promoting savings and credit access among members, FIGs are centered on crop production-oriented activities such as enhancing agricultural output, facilitating peer-to-peer learning, and improving market connectivity. FIGs are usually formed around agriculture and allied sectors, such as specific crops, specific farming approach (e.g. organic farming, natural farming, precision farming), livestock rearing or fisheries. By working collectively, members of FIGs put efforts together to gain better access to essential resources including farming inputs, technical know-how, training programs, and market opportunities. Over time, these groups often serve as foundational units for broader collective structures like Farmer Producer Organizations (FPOs) and agricultural cooperatives.

Objectives

Farmer Interest Groups are established with the aim of empowering farmers both technically and economically through collective action. The main objectives of FIGs are:

- Enhancing technical knowledge and entrepreneurial skills among farmers by encouraging group-based learning and shared experiences.
- Enabling collective procurement of agricultural inputs to reduce costs and ensure timely availability of quality resources.
- Improving access to agricultural extension services and modern technologies, helping farmers adopt innovative and efficient farming practices.
- Strengthening farmers' ability to secure better prices for their produce through joint marketing strategies and by adding value through processing and other post-harvest activities.
- Reducing risks in production and marketing by fostering a supportive network that encourages shared responsibility and resilience.
- Creating a common platform for accessing financial institutions and government programs, thereby improving the financial inclusion and support available to group members.

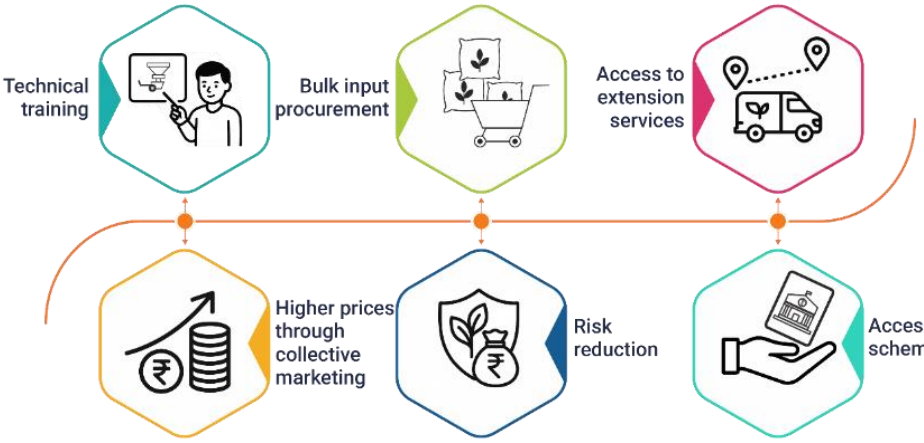


Fig 3.3 : Objectives of FIG

Formation and Operation

The process of forming and operating FIGs follows a structured approach, much like that of SHGs. However, the key distinction lies in the focus of activities since FIGs are more oriented towards enhancing agricultural productivity and improving market linkages. From the initial stage of group mobilization to the establishment of operational norms, FIGs are developed through a participatory process.

1. **Awareness Creation and Community Mobilization:** The formation process of FIGs begins with creating awareness among farmers about the concept, objectives and benefits of such groups. This is typically carried out through village-level meetings organized by the facilitating agency or extension agents. Farmers who share a common interest in a particular crop, farming system or agri-based enterprise are encouraged to come together to form a group.
2. **Group Formation:** Members of a FIG are generally selected based on their similarity in agricultural background such as landholding size, crops and cropping patterns, or farming needs. Although membership is voluntary it is recommended to set some basic eligibility criteria to be a part of the group. For example, being a full-time farmer operating within a specific geographical area or cultivating a particular crop. Also, it is essential that members should have shared interest, mutual trust and willingness to work together.
3. **Establishing Group Norms and Leadership:** Similar to the case of SHGs, the group members jointly decide on the group's rules, roles, and responsibilities. These include meeting frequency, decision-making protocols, contribution for group activities (if any), and coordination mechanisms. Leaders (e.g., president, secretary and treasurer) are elected democratically. These leaders are responsible for coordinating meetings, managing communications on behalf of the FIG, overseeing

input procurement and marketing related activities. To encourage participatory governance, leadership roles may be rotated periodically.

4. **Capacity Building and Skill Development:** To strengthen the group, targeted training and skill development sessions need to be organized in collaboration with government departments, research institutions and Krishi Vigyan Kendras (KVKs).
5. **Need Assessment and Plan of Action:** Once the group is established, the FIG need to conduct a thorough analysis to identify production challenges, input gaps, and market opportunities. Based on this assessment, an action plan needs to be developed outlining key group activities such as bulk input procurement, adoption of joint farming techniques, and strategies for collective marketing.
6. **Collective Input Procurement and Marketing:** Major functions of FIGs include bulk procurement of inputs like seeds, fertilizers, and equipments at discounted rates through bulk purchasing, and collective marketing of the produce eliminating the influence of middlemen to the greatest extent possible to fetch better prices. This is achieved through linkages with input suppliers, buyers, and agricultural service providers. Aggregating the farm produce for marketing also helps the group to explore value addition of unsold produce through basic processing, packaging, or branding.
7. **Record-Keeping, Monitoring and Evaluation:** Proper documentation is essential for the smooth functioning of a FIG. This includes maintaining records of input purchases, crop production, sales, income, and meeting proceedings. Regular meetings are held to review progress, resolve internal issues, and plan future activities. Monitoring tools and periodic evaluations, often facilitated by external agencies, help ensure accountability and guide continuous improvement.

Registration of Farmer Interest Groups

Formal registration is not mandatory for the basic functioning of a FIG. In fact, many FIGs started informally in India conduct meeting regularly, promote learning from each other, and even buy and sell produce as a group. But as the group grows, getting officially registered can bring many practical benefits. Registration enables FIGs to obtain a PAN, open a group bank account, sign contracts, and access schemes like equity grants, input subsidies, or market development funds. In simple terms, registration is like giving your group an identity card since it unlocks many opportunities such as connecting with government schemes and subsidies, and access to banking and legal services. For access to funding, grants, and institutional linkages, FIGs may later aggregate into Farmer Producer Organizations (FPOs)

and register under the Companies Act (as Producer Companies) or Cooperative Societies Act.

Facilitating agencies for FIGs registration in India includes State Agricultural Departments, KVKs, District Rural Development Agency (DRDA), and NGOs. They will support the FIGs for the formal documentation and registration or help to link the group to registration platforms. In fact, it is better to visit the Block or District Agriculture Office of a regio to know more about registering a FIG under schemes like ATMA, NRLM, RKVY or any other state program.

3. Producer Groups (PGs) & Producer Companies (PCs)

Concept and Features

A **Producer Group (PG)** is an informal or formal collective of 20 to 25 farmers who engage in similar agricultural activities and come together to improve production, access to inputs, credit, and markets. These groups are not formed under any specific law or legal act, which means they function without formal registration or legal recognition. The focus of these groups is largely on aggregation of produce, basic or primary processing, and collective local marketing. This allows small framers to have better bargaining power, improve product quality, and access larger or more reliable markets. Since most of the PGs operate informally, they usually have simple, self-governed structures and are based on mutual trust and understanding among members.

A **Producer Company (PC),** also commonly referred to as a Farmer Producer Company (FPC) or Farmer Producer Organization (FPO), is a formal and legally recognized business entity. PCs are registered under Section 465(1) of the Companies Act, 2013, which enables them to operate within a well-defined legal framework to support farmer-led enterprises. The primary aim of PCs is to promote collaboration among primary producers, encourage resource pooling, and enhance access to markets, technologies and finance. Moreover, PCs adopt a holistic value chain approach, which means they not only focus on production but also do agro-processing, packaging, distribution, and marketing to ensure better returns for their members. This makes their reach often broader from regional and national markets to even international markets. With a formal governance structure, although they are managed more professionally it demnads strict legal compliance to ensure transparency, accountability, and long-term sustainability.

Over time, many informal PGs expand their scale their operations by converting into PCs or Cooperative Societies. This transition helps them to attract investment and take advantage of government schemes and institutional support.

Objectives

The key objectives of PGs and PCs include

- Aggregate agricultural produce from small and marginal farmers to help them get better prices through collective marketing and increased bargaining power.
- Procure quality agricultural inputs such as seeds, fertilizers, and farming equipment at reduced costs through bulk purchasing and collective negotiations.
- Promote value addition activities, including cleaning, grading, processing, branding, and packaging, thereby increase the market value of the produce.
- Establish linkages with agricultural markets, institutional buyers, processors, and agri-tech companies for improved market access and adoption of innovative technologies.
- Facilitate access to formal credit, insurance, and government schemes to ensure financial inclusion and risk mitigation for member farmers.
- Support rural enterprise development, thereby generate employment opportunities for the rural communities to facilitate economic growth.
- Provide access to shared infrastructure such as warehouses, cold storage, transport, and processing facilities to improve efficiency and reduce post-harvest losses.

Formation and Operation

The formation of PGs and their transition to PCs or FPOs typically a structured and phased process. It includes the following steps:

1. **Awareness Creation and Community Mobilization:** The formation process of PGs begins with sensitizing farmers about the benefits of these kinds of groups in increasing their income from agriculture. For this, the promoting agencies adopt many tools such as awareness campaigns, community meetings, field visits, and training sessions.
2. **Group Formation:** The next step is identification and mobilization of farmers cultivating similar crops into small and manageable PGs of 15-25 members. These PGs act as basic functional units, which may be later federated into a single PC at the regional level.
3. **Establishing Group Norms and Leadership:** Each PG need to set its own rules, norms and operational guidelines, such as meeting frequency, produce aggregation protocols, savings contribution, and dispute resolution. The group members elect a group leader to

coordinates activities as well as to act as a liaison officer to connect with other PGs and external stakeholders.

4. **Capacity Building:** Members need to get trained in some key areas like bookkeeping, basic governance, marketing, value addition, and leadership. This helps farmers to be equipped with technical, entrepreneurial and managerial skills for effective participation in group activities.

5. **Formation of PC/FPC/FPO:** Once multiple PGs are established and start functioning, they can be federated into a formal legal entity i.e., a PC or FPO and registered under Section 465(1) of the Companies Act, 2013. Registration requires a minimum of 10 primary producers, with no upper limit on the number of members. Submission of required documents like MoA (Memorandum of Association), AoA (Articles of Association), PAN, address proof, etc. Application through the Ministry of Corporate Affairs (MCA) portal. This kind of legal entities requires a Board of Directors from among its shareholders to provide strategic direction. The key roles in these kinds of collectives include CEO or Manager, Marketing Head, Finance Officer, etc. The Board is responsible for strategic decision-making, while professional staff may be employed for daily operations.

6. **Business Planning and Execution:** A comprehensive business plan is required to outline the procurement models, marketing strategies, financial forecasts, risk management, and operational logistics. Focus is also given to branding, certification, and tapping into niche or export markets.

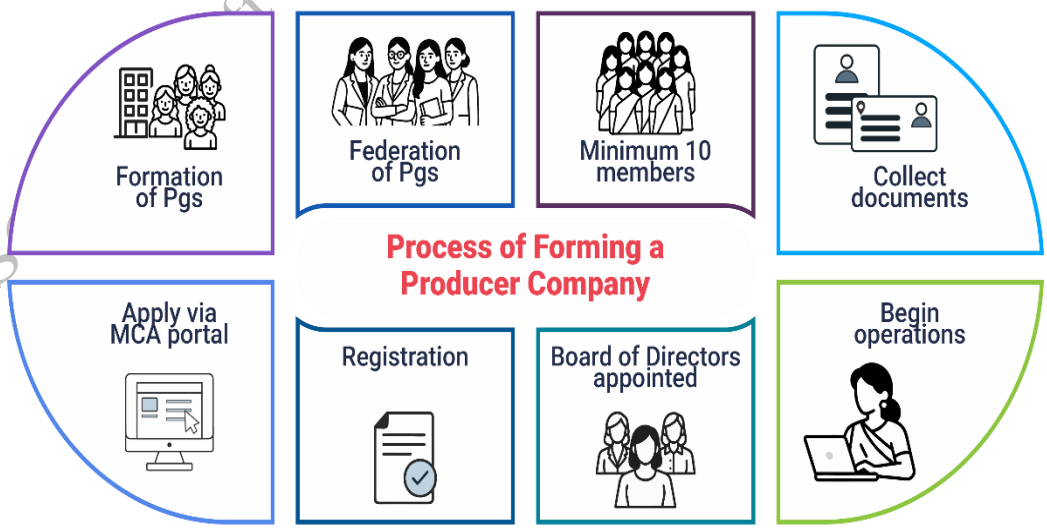


Fig 3.4

Support Schemes

The Government of India along with various agencies has launched several schemes to support PGs and FPCs/FPOs. Key support initiatives include:

- Central Sector Scheme by Ministry of Agriculture & Farmers' Welfare, Govt. of India - This flagship program aims to promote the formation of 10,000 FPOs across the country. Each FPO can receive financial assistance of up to Rs.18 lakh over three years to support capacity building, business development, and operational costs.
- Equity Grant and Credit Guarantee Fund Scheme - The Small Farmers' Agribusiness Consortium offers matching equity grants up to Rs.15 lakh to boost the capital base of Producer Companies. Additionally, it provides credit guarantees to banks, facilitating easier access to loans for FPCs.
- NABARD's Producer Organization Development Fund (PODF) - NABARD supports FPOs with grants, loans, and credit-linked assistance aimed at working capital needs and infrastructure development, helping to strengthen their operational capabilities.
- Agri Infrastructure Fund (AIF) - This scheme provides long-term financing at subsidized interest rates to FPOs for establishing warehouses, cold storages, grading units, primary processing centers, and other essential infrastructure. The scheme includes an interest subvention of 3% per annum on loans up to ₹2 crore.
- State Government Schemes - Many states offer additional incentives such as subsidies, grants, and tax exemptions for registered FPOs. They also run support programs for agri-tech startups and e-commerce platforms, enhancing technology adoption and market access for farmers.

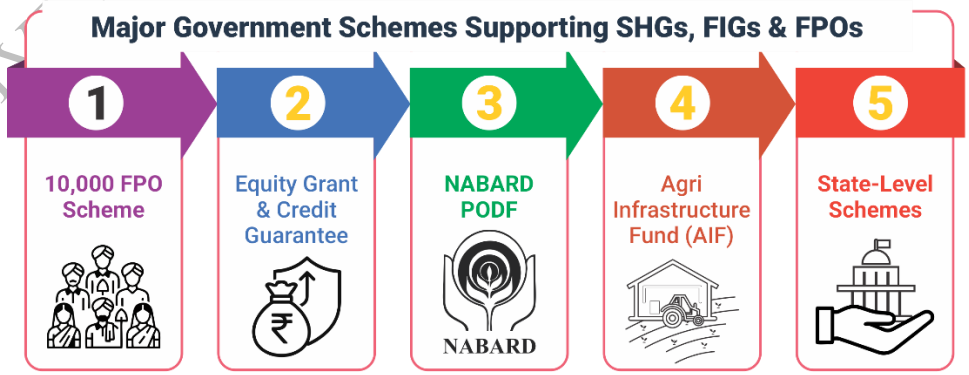


Fig 3.5

Challenges For the Sustainable performance of SHGs, FIGs and PGs

Self-Help Groups (SHGs), Farmer Interest Groups (FIGs), and Participatory Guarantee Systems (PGSs) are helpful for farmers and rural people. These groups help members work together, earn better incomes, and improve their farming or business. But for these groups to work well for a long time, certain things are very important:

- Trust and cooperation among members
- Good leadership
- Regular participation in meetings
- Proper record-keeping and financial management
- Support from family, community, and agriculture officers
- Income-generating activities (like farming, dairy, or small businesses)

If any of these are missing or not done properly, the group may face problems and may not be successful in the long run. In India, SHGs, FIGs and PGs face some common issues such as:

- Many people are not fully aware of the benefits of joining such groups
- Some women are not allowed to join because of family or social restrictions
- Group meetings are often irregular, and attendance is low
- Many members don't have leadership or communication skills
- Records like savings, loans, and minutes of meetings are not kept properly
- It takes time to open bank accounts or get loans from banks

However, with the right help from extension workers (such as agriculture officers or NGOs), and by using simple and local solutions, these problems can be solved. This support can make SHGs, FIGs, and PGSs stronger, more active, and more useful for both the members and their communities in the long term.

Linkage of SHGs, FIGs, and PGs with bank and agri inputs Dealers.

Financial institutions and agri-input dealers play crucial role in supporting farmers groups in rural areas many ways. Bank linkage is very much important for community-based groups such as SHGs, FIGs and PGs because it not only provides easy access to credit facilities and government subsidies but also offers a safe place for savings. For example, the SHG-Bank Linkage Programme of NABARD act as the backbone of SHG financing in India and has helped millions of rural women to form small neighborhood groups, start

income-generating activities, and adopt digital banking services such as mobile banking and UPI. For FIGs, financial support from Banks is essential for various agriculture related needs such as bulk purchase of inputs (seeds, fertilizers, and farm machinery), crop diversification, establishing custom-hiring centers, and setting up small-scale grading or processing units. PGs need even stronger formal financial linkages, since they depend up on working capital loans and long-term infrastructure financing for the development storage structures, value addition facilities and marketing.

Agricultural input dealers are also key partners for SHGs, FIGs, and PGs, especially when these groups engage in farming or income-generating activities. Linkages with these dealers ensure the timely availability of quality seeds, fertilizers, plant protection chemicals, and other inputs to the member farmers. Group-based bulk purchasing helps to reduce the input cost per member and allows groups to negotiate for deferred payment options, including payment even after harvest. Many input-dealers also offers short-term loans to farmer groups and provide technical support in the form of training, demonstrations, and advisory services. In addition, they offer after-sales services, including replacement of defective products or assisting with machinery repair, which further strengthens the group's ability to manage farming activities efficiently.

Case of successful SHGs, FIGs, and PGs

Community-based organisations like SHGs, FIGs, and PGs have transformed rural livelihoods across India by promoting collective action, improving market access, and strengthening financial inclusion. While many groups have struggled to become sustainable due to various internal and external challenges, a large number of well-functioning groups remain sustainable with impressive results. The successful examples show us how community groups empower rural population and promote local enterprises to build resilient rural communities. A few such real-life cases are presented below. These models offer valuable lessons that students can understand, appreciate, and apply within their own communities.

1. Kudumbashree – Kerala's Women-Led Movement

Kudumbashree, meaning "prosperity of the family," is a unique women-led initiative launched in 1998 by the Government of Kerala in collaboration with NABARD and local self-government institutions. Designed as a grassroot level people's movement, it aimed to empower women through collective action and community participation. Women at the village level were encouraged to form small groups called Neighborhood Groups (NHGs), where they met weekly to discuss issues, save money, and support one another. The mission introduced a financial model based on collective savings and internal lending, enabling

women—many of whom had never visited a bank before—to learn about savings, maintain accounts, and access formal credit.

As the network expanded, NHGs were federated into Area Development Societies (ADS) at the ward level and Community Development Societies (CDS) at the Panchayat level, creating a strong three-tier democratic structure run entirely by women. Under the Kudumbashree mission, members received skill training, enterprise development support, and market linkages that helped them to start micro-enterprises in agriculture, tailoring, food processing, catering, textiles, and various service sectors.

With a strong credit history, these groups became eligible for bank loans without relying on moneylenders. During 2005–2010, the mission further strengthens livelihoods by promoting Joint Liability Groups (JLGs) in agriculture, enabling women to jointly cultivate land, share risks, and obtain agricultural loans.

Despite its achievements, Kudumbashree faced challenges like patriarchal norms, restricted mobility, and initial scepticism from families. These challenges were addressed through organizing community awareness and confidence-building programmes, and leadership trainings. Over time, women began taking leadership roles not only within Kudumbashree but also in local governance.

Today, Kudumbashree has over 3 lakh NHGs and stands as one of the world's largest and most successful women-led movements. Its impact is visible across Kerala in the form of improved household incomes, better access to credit, flourishing micro-enterprises, and enhanced social status of women. Kudumbashree's journey demonstrates how a community-driven institution can transform lives and strengthen rural societies.

2. JEEViKA – Bihar

JEEViKA, launched in 2006 by the Government of Bihar with World Bank support, is one of India's largest and most successful rural livelihood missions. Implemented through the Bihar Rural Livelihoods Promotion Society (BRLPS), its main aim is to reduce rural poverty by organizing poor women into strong community institutions and helping them build sustainable livelihoods. The programme began as a pilot in just five villages, but due to its success, it gradually expanded to all 534 blocks across Bihar.

JEEViKA follows a three-tier community structure. At the base are Self-Help Groups (SHGs), where women meet regularly, save small amounts of money, and take loans for household needs or income-generating activities. These SHGs are federated into Village Organisations (VOs) and further into Cluster-Level Federations (CLFs), creating a powerful network completely managed by

rural women. The movement grew rapidly—by 2020, JEEViKA had formed more than 10 lakh SHGs, reaching over 1.23 crore families.

The programme helps women access bank loans, manage finances, and start small enterprises. Training is provided in bookkeeping, entrepreneurship, agriculture, livestock rearing, and business management. JEEViKA also provides a Community Investment Fund (CIF) to SHGs and VOs to support emergency needs, food security, and livelihood investments. Many women who once depended on moneylenders now run their own businesses, manage bank transactions, and take leadership roles within their communities.

JEEViKA has promoted several livelihood models. A notable example is the Mukhyamantri Koshi Mulberry Pariyojana, where thousands of women cultivate mulberry, rear silkworms, and sell cocoons. Producer Groups, reeling centres, and market linkages have helped create steady incomes in districts like Purnea, Saharsa, Supaul, and Kishanganj.

Over the years, JEEViKA has built confidence, financial independence, and leadership among rural women. It is now recognized as a model for social mobilization and rural development across India.

3. SPOOOK – Organic Kiwifruit Farmer Interest Group - Manipur

The hills of Manipur's Senapati district are well-suited for growing high-value crops, yet tribal farmers traditionally practiced low-input subsistence farming with limited income. To change this situation, the ICAR Research Complex for NEH Region formed a Farmer Interest Group (FIG) called the Senapati Producers' Organization of Organic Kiwifruit (SPOOOK) under the Tribal Sub-Plan (TSP). The FIG brought together 94 tribal farmers from six villages in the Purul subdivision with the goal of transforming the area into an organic kiwifruit production hub.

SPOOOK promoted cluster-based organic cultivation, enabling farmers to learn improved techniques through group training and farmer-to-farmer learning. ICAR provided high-quality grafted planting material, biofertilizers, biopesticides, trellising equipment, and continuous technical guidance. Farmers were trained in orchard establishment, pruning, nutrient management, irrigation, mulching, and organic pest management. A 5-tonne community cold storage unit was also set up to reduce post-harvest losses and stabilize prices.

With support from the Manipur Organic Mission Agency and the Department of Horticulture, SPOOOK initiated organic certification, allowing farmers to sell their produce as certified organic kiwifruit. Collective marketing, grading, packaging, and price regulation helped farmers avoid distress sales and negotiate better prices in local and online markets. Some

members even received offers from e-commerce platforms. One progressive farmer established a small processing unit under the brand "Peter's," generating additional income and employment.

The impact has been remarkable. Adoption of improved practices led to 25–35% higher productivity, and farmers now earn ₹9–10 lakh per hectare annually, making organic kiwifruit one of the most profitable crops in the region. The FIG also created local employment in pruning, harvesting, packaging, and processing. SPOOOK members organize the annual Manipur Kiwifruit Festival, boosting awareness and branding of organic kiwifruit.

SPOOOK has emerged as a model FIG in Northeast India, showing how organized groups, scientific guidance, and market linkages can transform tribal livelihoods and promote sustainable crop diversification.

Activities

Activity 1: Visit to Any Nearby SHGs/FIGs and Prepare Report

Material Required:

Notebook, Pen/Pencil, Permission letter, Questionnaire.

Procedure:

- Identify a nearby SHG or FIG.
- Take permission from school authorities for the visit.
- Prepare simple questions about the group.
- Visit the SHG/FIG with teacher guidance.
- Observe group activities and working system.
- Interact with members and ask questions.
- Note details like formation, principles, and operations.
- Collect information about bank and input dealer linkage.
- Write a simple report based on observations.

Check Your Progress

Fill in the Blanks

1. A Self-Help Group usually consists of ____ to ____ members.
2. Most SHGs in India are ____ oriented.
3. _____ Groups mainly focus on crop production activities.
4. _____ supports SHGs through the SHG–Bank Linkage Programme.

5. Kudumbashree was launched in the year _____ in Kerala.

Multiple Choice Questions

1. Who defined Self-Help Groups in India?
   a. RBI
   b. NABARD
   c. ICAR
   d. WHO
2. SHGs mainly promote:
   a. Entertainment
   b. Tourism
   c. Sports activities
   d. Collective savings
3. FIGs are formed mainly around:
   a. Urban jobs
   b. Common Banking services
   c. Common farming interests
   d. Education
4. Which institution supports Producer Companies with equity grants?
   a. RBI
   b. NABARD
   c. SFAC
   d. ICAR
5. JEEViKA is a livelihood mission of:
   a. Bihar
   b. Kerala
   c. Assam
   d. Manipur

Match the Following

Column A	**Column B**
1. SHG	a. Rural development bank

2. FIG	b. Registered business entity
3. Producer Company	c. Collective savings
4. NABARD	d. Crop-based group

Subjective Questions

1. What is a Self-Help Group? Explain its main features.
2. Describe the objectives of Farmer Interest Groups and Explain the difference between Producer Groups and Producer Companies.
3. Describe the importance of bank linkage for SHGs and FIGs.
4. Write a short note on followings :
    a. Kudumbashree
    b. JEEViKA.

Session 2: Various Value Addition Practices

What is Value Addition?

Value addition means improving a raw farm produce to make it more useful, attractive, or convenient for consumers. It increases the product's market value and helps farmers to earn a better income. For example, milk can be processed into paneer, curd, ghee, or ice cream, while tomatoes can be turned into puree, sauce, or pickles. By converting raw produce into improved products, farmers can reduce wastage, extend the shelf life, and supply them to distant markets.

Types of Value Addition Practices

Value addition can be carried out at different levels depending on available skills, tools, and facilities:

1. **Primary Processing:** These are simple activities that make raw produce cleaner, safer, and ready for consumption or sale. The focus is on improving the quality and shelf life of produce with minimum investment. Examples include cleaning, grading, sorting, sun drying or solar drying, and basic packaging (pouches, boxes).

2. **Secondary Processing :** This involves converting raw materials into new products that add more value. Examples include ready-to-cook or ready-to-eat products such as pickles, papads, juices, jams, jellies, flour mixes, masala powders and bakery items using millets and cereals.

3. **Tertiary or Advanced Processing :** These practices use modern techniques and specialized machinery to produce high-value items such as dehydrated fruits, frozen or freeze-dried foods, vacuum-fried snacks, cold-pressed oils, and nutraceuticals (e.g., herbal health drinks). They offer higher profit margins and better market demand.

Why Value Addition is Important in Agriculture?

Key benefits include:

- **Higher income:** Value-added products like chips, juices, powders, and pickles fetch better prices than raw produce.
- **Longer shelf life:** Methods such as drying, dehydration, pickling, and proper packaging reduce spoilage.
- **Lower post-harvest losses:** Processing of surplus farm produce helps to reduce wastage.
- **Employment generation:** Processing, packaging, branding, and marketing activities create rural jobs, especially for women, youth, and SHGs.
- **Better market access:** Processed, well-packaged items have a goog market and can be sold in shops, supermarkets, exhibitions, online platforms, and export markets.
- **Support for entrepreneurship:** Community-based groups like SHGs, FIGs, and PGs can establish small enterprises using affordable machines and basic processing skills.
- **Enhanced food security:** Preservation reduces waste and ensures consistent availability of nutritious foods.
- **Product diversification:** Multiple products can be made from a single crop, reducing risk—for example, banana chips, banana powder, and dried slices.
- **Use of improved technology:** Value addition encourages entrepreneurs and farmers to adopt scientific methods and modern tools to enhance product quality.

Importance of upskilling

Upskilling means learning new skills or improving existing ones. It is crucial in agriculture because many products, especially fruits and vegetables, spoil quickly if not marketed in time, leading to financial losses. Through value addition, farmers can use simple technologies to convert raw produce into products like juices, pickles, jams, powders, and snacks.

Upskilling enables farmers to:

- Process and preserve crops properly, earning higher and more stable income throughout the year.
- Reduce wastage and dependence on seasonal markets.
- Understand food quality standards, hygiene practices, and basic processing techniques.

In short, upskilling empowers rural farmers to adopt value addition practices effectively and profitably.

Successful cases of value addition practices to increase business profitability

1. TBPG - Thottiyam Banana Producer Group – Tamil Nadu

Thottiyam in Tamil Nadu is famous for its lush banana farms. But for many years, farmers struggled because they had no proper facilities to process their bananas. If the market price dropped or unexpected rains damaged the crop, farmers suffered huge losses. Much of the fruit went to waste because there was no way to store or preserve it.

To address these challenges, a group of banana farmers came together to form the Thottiyam Banana Producer Group (TBPG) in 2014 under the umbrella of the Tamil Nadu Banana Producer Company Limited (TNBPCL). The turning point came when a public–private partnership (PPP) project introduced them to simple but innovative technologies such as solar greenhouse dryers and solar cold-storage units. These technologies allowed farmers to preserve their bananas hygienically, reduce wastage, and create value-added products.

The Solar Greenhouse Dryer became a game changer. This advanced system removes moisture from bananas without destroying their nutrients. Fruits dried fruit this way stays fresh for months, tastes naturally sweet, and is completely chemical-free.

The farmers of Thottiyam were among the first in India to use this technology on a commercial scale. They learned to produce dehydrated banana slices, banana-based snacks, health mixes, and other nutritious products. These dried bananas were soon being used in mid-day meal programmes, snacks for children, and healthy foods for diabetic patients and young mothers.

With scientific support from ICAR–National Research Centre for Banana, Trichy, the producer group also learned to make value added products such as dehydrated ripe banana, ripe banana powder, banana thokku, banana stem juice, nutri bars, and banana fig. To secure better prices and reach wider markets, they launched their own brand, “Madhur Fruits,” and began selling

through retail shops, exhibitions, and online platforms. Their premium products gained strong demand, and some were even exported to countries like the UAE under the brand "Weleet."

Within just two years, the group achieved a major increase in income, drastically reduced post-harvest losses, and created new livelihoods in the region. Today, the Thottiyam Banana Producer Group stands as one of India's most successful producer collectives. Their journey shows how farmers can transform their future when they work together, adopt new technologies, and focus on value addition.

2. Sahyadri - Farmer Producer Company – Maharashtra

Sahyadri Farmer Producer Company (SFPC) started in 2011 when a few small grape growers in Nashik joined hands with a simple idea "farmers can achieve more when they work together". From this small beginning, Sahyadri has grown into India's largest Farmer Producer Company, bringing together over 18,000 farmers who grow nine crops on about 31,000 acres.

From the beginning Sahyadri realised that farmers earn very little when they sell only raw fruits and vegetables. To help its members to fetch better prices, the company invested in modern processing facilities. Today, Sahyadri has one of India's most advanced processing units. It includes aseptic processing units for mango, tomato, banana, papaya, and guava; IQF (Individually Quick Frozen) units for fruits and vegetables; pulp and puree lines; vacuum pre-cooling systems; ripening chambers; and factories that prepare juices, jams, ketchups, slices, and dices.

These facilities allow farmers to turn surplus or lower grade produce into value-added products. This reduces wastage and helps farmers to earn income throughout the year. Sahyadri also supports its farmers with crop advice, packhouses, cold storage, and digital traceability, ensuring that their produce meets high quality and safety standards.

Because of this strong value-chain system, Sahyadri now exports fresh and processed products to more than 40 countries. It has become India's largest exporter of grapes and a major processor of tomatoes and fruit pulps.

Sahyadri's focus on processing has also improved its financial growth. The company's turnover increased from ₹14.8 crore in 2012 to over ₹525 crore by 2020–21. By reducing middlemen and improving logistics, Sahyadri ensures that farmers get fair and stable prices while consumers receive clean, safe, and high-quality food.

Sahyadri's success shows that when farmers take part in value addition and processing, agriculture becomes more profitable and sustainable.

Activities

Activity: Develop a Case Study on Value Addition Practices of Nearby SHGs/FIGs/Entrepreneur

Material Required:

Notebook, Pen/Pencil, Permission letter, Questionnaire.

Procedure:

- Identify a nearby SHG, FIG, or entrepreneur.
- Take permission for interaction or visit.
- Prepare simple questions on value addition practices.
- Visit the selected unit with teacher guidance.
- Observe the value addition process carefully.
- Note raw material used and final product made.
- Record skills learned and training received.
- Note how value addition increased income.
- Write the case study in simple words.

Check Your Progress

Fill in the Blanks

1. _____ means improving a raw farm produce.
2. Cleaning, grading, and drying come under _____ processing.
3. Pickles, jams, and papads are examples of _____ processing.
4. Dehydrated fruits and frozen foods are produced through _____ processing.
5. Value addition helps in reducing _____ losses.
6. _____ helps farmers reduce wastage of farm produce.

Multiple Choice Questions

1. What does value addition mainly increase?
   a. Crop area
   b. Market value
   c. Rainfall
   d. Soil fertility
2. Which is an example of primary processing?
   a. Jam making
   b. Juice extraction
   c. Cleaning and grading
   d. Freezing fruits

3. Ready-to-eat foods belong to which processing level?
   a. Primary
   b. Secondary
   c. Tertiary
   d. Natural
4. Which processing uses modern machinery?
   a. Primary
   b. Secondary
   c. Tertiary
   d. Manual
6. Upskilling helps farmers learn:
   a. Cooking only
   b. New and improved skills
   c. Office work
   d. Teaching
7. TBPG mainly works with which crop?
   a. Mango
   b. Tomato
   c. Banana
   d. Grape

Match the Following

Column A	Column B
1. Primary processing	a. Dehydrated foods
2. Secondary processing	b. Processing and export
3. Tertiary processing	c. Cleaning and grading
4. Sahyadri FPC	d. Pickles and jams

Subjective Questions

1. What is value addition? Explain importance of value addition in agriculture.
2. Describe the types of value addition practices.
3. What is upskilling? Why is it important for farmers?

Module 4 Hygiene, Cleanliness, Safety and Emergency Procedures at Workplace

Module Overview

A safe, clean and hygienic work environment is essential for employee well-being, productivity and legal compliance. Employers have both a moral and legal responsibility to ensure that workplaces uphold the highest standards of hygiene, cleanliness and safety. Moreover, a well-prepared organization also needs to be equipped with emergency procedures to handle unexpected incidents such as accidents, fires, natural disasters or health emergencies. In conclusion, hygiene, cleanliness, safety and emergency preparedness are interrelated components that form the foundation of a responsible and resilient workplace. Prioritizing these elements not only safeguards human lives but also supports sustainable business operations.

This module provides students with essential knowledge and practical awareness of maintaining hygiene, cleanliness, and safety in the workplace. It emphasizes the importance of preventing accidents, responding to emergencies, and ensuring a safe working environment, particularly in laboratory and field settings. In Session 1, students will learn about basic first aid, treatment of common injuries, and the use of safety equipment. The session highlights emergency response procedures and the importance of personal and workplace safety. In Session 2, the module focuses on the safe use of laboratory equipment, including proper handling, operation, and maintenance to prevent accidents and ensure safe working practices.

Learning Outcomes

After completing this module, you will be able to:

- Demonstrate basic first aid measures and correctly use safety equipment to respond to workplace emergencies.
- Apply safe practices while handling and using laboratory equipment to maintain a hygienic and secure work environment.

Module Structure

Session 1: First Aid, Treatment and Safety Equipment

Session 2: Safe use of lab equipment

Session 1: First Aid, Treatment and Safety Equipment

Accidents might happen in spite of all the precautions and care. It is essential for students to know about the immediate medical aid for a chemical accident and to learn about the safety devices needed to prevent accidents.

Hygiene at the Workplace

Workplace hygiene refers to the conditions and practices that help maintain health and prevent the spread of diseases among employees.

Workplace hygiene encompasses the set of practices related to maintaining cleanliness and minimizing health hazards in the work environment with the aim of safeguarding the health and safety of workers. (ILO, 2009)

Importance of Hygiene

- **Prevents Illness and Infections:** Poor hygiene can lead to the spread of infectious diseases like colds, flu, skin infections or food-borne illnesses. Maintaining cleanliness minimizes the risk of contamination and keeps employees healthy.
- **Promotes Employee Health and Well-being:** A hygienic workplace contributes to the physical and mental well-being of employees by reducing exposure to harmful substances and maintaining a clean and comfortable work environment.
- **Reduces Absenteeism:** Healthy employees are less likely to take sick leave. Proper hygiene practices reduce absenteeism due to illness which helps maintain continuity and productivity in the workplace.
- **Improves Employee Morale and Job Satisfaction:** A clean and well-maintained workplace creates a positive impression, making employees feel valued and cared for which in turn boosts morale and job satisfaction.
- **Increases Productivity:** A clutter-free, sanitized environment enhances focus and efficiency, leading to better performance and reduced errors or accidents.
- **Minimizes Workplace Hazards:** Proper hygiene practices such as safe waste disposal, clean restrooms, and tidy work areas reduce hazards like slips, trips, chemical exposure, or contamination.
- **Personal Hygiene of Employees:** Personal hygiene refers to the practices that individuals follow to care for their own cleanliness and health. In the workplace, especially in settings like offices, factories, hospitals and food processing units, maintaining personal hygiene is essential not only for the well-being of the individual employee but also

for the health and safety of co-workers, clients and the work environment as a whole.

Common health and safety guidelines to be followed at the workplace

Some basic guidelines for health and safety at work place are as follows:

- Regular sanitisation/ of cultivation area is essential to maintain hygiene as well as the health of workers.
- The exposed body parts should be thoroughly washed after use of agrochemicals or before eating/drinking, and after using the lavatory.
- Any cuts or sores on the body should be carefully covered and protected.
- Care should be taken during decontamination or removing protective clothing.
- Always use a soft probe for blowing through sprayer nozzles to unblock them.
- Do not carry contaminated items like dirty rags, tools, or spare nozzles in personal clothing pockets.
- Wash clothes daily, and personal protective clothing separately.
- The fingernails should be short and clean.
- The product that causes an allergic reaction, such as a skin rash, should be avoided.
- Follow the instructions mentioned on the product label.
- The body should be covered with long cloth shirts and trousers, hats, or towels to protect the skin from agrochemicals.
- Workplace should be cleaned and organised properly to avoid accidents and microbial contamination/growth.
- The farm area should be properly ventilated to prevent the accumulation of harmful fumes/gases, while using chemicals.
- All electrical equipment- air pump, water pump, exhaust fan, cooling device, cables and lights- should be properly maintained and checked regularly. Proper earthing is necessary in the area of soilless cultivation for the proper working of electrical equipment.

Chemical poisoning and first aid measures

Poisoning is the lethal disruption of the body's physiological mechanisms by the consumption/inhalation, ingestion, injection or surface absorption, etc. of toxic chemicals. Immediate first aid measures are very important in these

kinds of emergencies. Sources of poison may include insecticides, pesticides, fungicides, herbicides, etc. It can be diagnosed by blood test, Urine test, and also by physical examination of the sufferer.

Chemical poisoning may result from continuous contact or absorption through skin, inhalation of toxic vapour or swallowing it directly. Common symptoms of pesticide poisoning are headache, nausea, vomiting, tremors, convulsions, and difficulty in respiration. A first-aid kit with necessary antidotes should be available at the work site for each type of poisoning. Antidotes are always mentioned on the pesticide containers.

First aid measures for chemical poisoning- We need to follow the DRSABCD action plan-

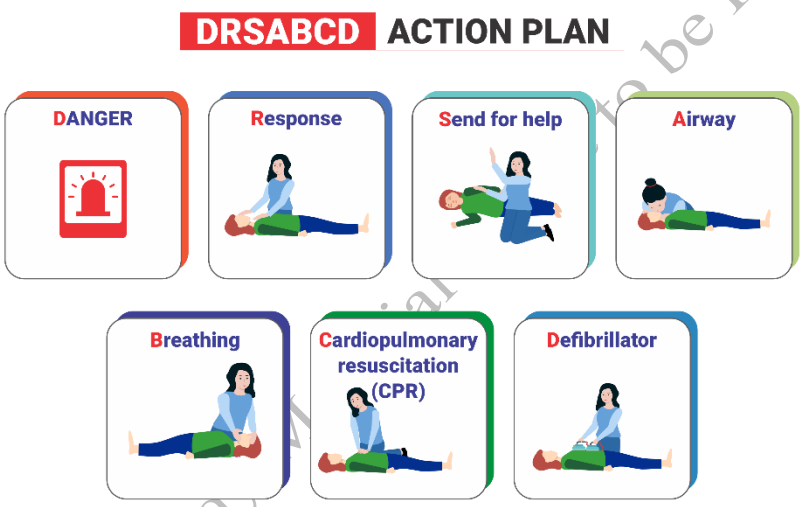


Fig 4.1: DRSABCD Action Plan

Treatment for simple chemical poisoning:

Skin and Eyes: If chemicals splash onto the skin, contaminated clothing, gloves, and lab coats should be removed immediately. Wash the affected skin area thoroughly with soap and water for at least 15 minutes, and flush with plenty of water to reduce the extent of injury. If symptoms persist, seek medical attention at the nearest hospital. In the case of eye exposure, rinse the eyes gently with plenty of water for at least 15 minutes, keeping the eyelids open. Quick and decisive action is crucial, as a delay of even a few seconds may significantly increase the injury. Consult an eye doctor immediately.

Inhalation: Ingestion: If any chemical has been ingested accidentally a chemical, consult a doctor immediately. Vomiting should not be induced unless recommended by a medical professional. However, if an ingested chemical is not in the category of acid/ alkali and the sufferer is conscious, give them milk or water may be given to dilute the chemical.

Swallowed poison: If the poison has been swallowed, induce vomiting immediately. Mustard oil or table salt in a glass of warm water is good for this purpose. Touching the throat internally with a finger will also induce vomiting. The vomiting process should be continued till a clear liquid starts coming out of the stomach. If the patient goes into convulsions or an unconscious state, vomiting should be induced. If the poison is due to ingestion of mercury compounds, egg white and milk should be given first, and then vomiting should be induced. At the end of inducing vomiting, soothing substances like raw egg white (mixed with water), butter, or cream milk must be given.

Safety and Protective Equipment

Disposable masks: Wearing a mask in farm is essential to protect against inhaling harmful chemicals and dust from fertilisers, and pesticides. It reduces exposure to airborne allergens and pathogens, promoting a healthier environment. Masks also help prevent cross-contamination between plants, safeguarding their health.

First aid kits: keep a prepared first aid box with antiseptic lotion, bandages, scissors, tweezers, hand sanitizer, antibiotic ointment, burn cream, etc., at your workplace at all times.

Fig. 4.2: First Aid Kits

Rubber footwear: Wearing rubber footwear at farm is important for protecting against water spills and maintaining dryness. This can provide a level of insulation against electric shocks, especially in wet environments where the risk of electrical hazards is higher.

Personal protective clothes: Protective clothes should be worn while working with agrochemicals. They are made up of special material that prevents damage to the body.

Head protection: Head protection is crucial when working with agrochemicals and may come as a standalone garment or part of a combined coverall or face shield with a hood.

Eye and face protection: For eye and face protection, a shield covering the forehead and face should be worn to protect against accidental splashes of harmful agrochemicals during opening or pouring from containers. Non-

fogging goggles resistant to chemicals should be worn when handling dusts or granules.

Fig. 4.3: Various personal protection equipment

Protective gloves: Hand gloves should be used during the handling of agrochemicals, as these chemicals may be absorbed through the skin or cause damage to the skin. Generally, it should be at least 0.4 mm thick. The gloves of wrist length may be used for spraying toxic pesticides.

Emergency Response

Emergency response is a protective measure taken to control or alleviate the prompt side-effects of any kind of incident. It is one of the four-phase cycles in emergency management, which comprises mitigation, preparedness, response and recovery. Emergency responses help save lives and for the well-being of affected residents. The following are some key steps by which one can successfully handle the emergency situation-

- Train a task force for emergency response action for the workplace (for example, snakebite, fire, confined space entry, heat stress, or chemical spill).
- Keep the safety awareness level of workers high at all times.
- Maintain emergency response equipment.

Health and safety awareness in the workplace

- Encourage seniors to keep an eye on those working in the workplace.
- Use charts and visuals to demonstrate commitment to health and safety.
- Encourage safe work practices while discouraging unsafe work practices.
- Even at the cost of repetition, communicate that safety is of prime importance while at work.
- Those new to undertaking spray or pesticide application must be supervised or advised to report immediately about any adverse effects

on the health of the operator.

- Respond and act promptly to all health and safety concerns.
- Set an example in the use of all preventive and protective materials and practices.
- Keep young trainees away from the operational area, or supervise them personally to ensure that they do not come close to equipment which they are not yet trained to use.

Activities

Activity 1: Identification of the Components of a First Aid Kit

Materials required:

Pen, pencil, notebook, First Aid Kit

Procedure:

1- Open the first aid kit and observe all the items inside.

2- Identify and list each component found in the kit.

3- Group the items into categories:

- Bandages, gauze, adhesive tape.
- Pain relievers, antiseptics, ointments.
- Scissors, tweezers, thermometer.
- CPR mask, first-aid manual, gloves.

4- For each item, note its purpose and how it should be used in an emergency.

Activity 2: Identification of Safety and Protective Devices

Materials Required:

Pen, pencil, notebook, gloves, goggles, masks, earplugs, reflective vests, fire extinguisher

Procedure

1- Identify the different types of protective devices used while handling and applying chemicals.

2- Understand their use through pictorial charts.

3- Identify and understand about each item and its uses.

4- Discuss about different types of chemical poisoning. What are the immediate symptoms?

5- Demonstrate the use of different protective devices.

6- Prepare chart showing different protective devices and their use.

Check Your Progress

Fill in the Blank

1. Poisoning is the lethal disruption of the body's physiological mechanism caused by toxic _____.
2. Protective gloves used during handling of agrochemicals should be at least _____ mm thick.
3. In case of chemical splashes on the skin, the affected area should be washed with soap and water for at least _____ minutes.
4. Head protection may come as a standalone garment or part of a combined coverall with a _____.

Multiple Choice Questions

1. Which of the following is a symptom of pesticide poisoning?
   a) Improved appetite
   b) Tremors
   c) Increased strength
   d) Rapid weight gain
2. What is the primary purpose of wearing rubber footwear farm?
   a) Aesthetic appearance
   b) Protect against water spills and electric shocks
   c) Increase mobility
   d) Enhance chemical absorption
3. Which of the following materials is ideal for gloves used in handling agrochemicals?
   a) Cotton
   b) Plastic of 0.4 mm thickness
   c) Rubber of 0.4 mm thickness
   d) Silk
4. What should be done after vomiting induced by ingestion of poison?
   a) Give raw egg white, butter, or cream milk
   b) Leave the patient unattended

c) Continue inducing vomiting indefinitely

d) Administer a random chemical antidote

5. What is a key action in the emergency response process?

a) Avoiding preparedness drills

b) Encouraging unsafe practices

c) Training a task force for emergency response

d) Ignoring the safety equipment's maintenance

Subjective Questions

1. Explain the first aid measures for chemical splashes on the skin and eyes.
2. Why is the use of rubber footwear essential at farm?
3. Enlist safety guidelines to ensure a safe working environment.

Session 2: Safe use of Agricultural Machinery

Agricultural field operations today are dependent on various agricultural machinery, tools and equipment's. Use of machinery demands great care with all necessary safe guards.

The accidents associated with agricultural machineries are caused due to the following reasons:

- Lack of adequate or proper training to operators
- Poor maintenance of tools and machinery
- Using a machine that is not right or suitable for the task at hand
- Failure in following proper norms of a safe system of work
- Failing to follow safe operating or 'safe stop' procedures
- Missing or defective safety devices or machine guards, thus exposing workers to accidents
- Unsafe methods for clearing blockages on the premises or for making adjustments.

Checking the tools and machinery before use

Before starting to work with a tool or machinery, one should carry out a check to make sure that it is in good working condition and is safe to use. While specific needs would vary with the machine to be used, basic checks must always be adopted/exercised:

Check the operator manual of the machine for pre-operative instructions and follow them as advised

- Particular attention is warranted to items like brakes, wheels, moving parts of machine (if openly visible) and tires of tractors/vehicles.
- Make sure that guards and protective covers are securely positioned so that these would not come out lose or allow catching loose articles or body parts
- Promptly repair or replace defective/damaged parts of machine, if any
- Stopping devices should be functioning correctly, e.g., brakes, emergency stops (electric switches).
- While coupling/engaging/attaching equipment or a part to machines, make sure that the coupling/attachment is properly fit and is of appropriate size/specification & is not lose. Don't use wrong/makeshift coupling devices/pieces.
- Vehicular type machines must have clear rear view mirrors and fit, fine, properly working reversing aids.
- If guards over moving parts of a machine are missing, get them fitted out and properly covered before using the machine

Daily/periodic mandatory inspections for use of machinery

1. Check water, fuel, fan belts, *etc.*
2. Once engine is running, check hand and/or air brakes, this ensures that brakes will hold while loading.
3. Inspect the cracks in the metal which may cause equipment to break or parts may come off unexpectedly.
4. Keep a safe distance from the equipment when loading or unloading.
5. Take care if there are any overhead power lines, particularly during loading and offloading or while lift-removing of produce or materials.
6. Do discuss any unsafe actions that come to notice of supervisors so that preventive measures can be taken.

Safety precautions during harvesting and threshing machinery

Guidelines to avoid accidents & enhance safety while at work:

- Familiarize yourself with safety risks & measures to overcome the same.
- Harvesting and threshing machines are most prone to debilitating accidents, *viz.*, crushing, cutting, seizing of body parts, especially hands, feet, trunk.
- Caution operators accordingly

- During field operations with moving vehicles, machinery with moving parts, handling a moving part of a machine, do ensure to wear tight clothing and head/hair cover to avoid entanglement.
- Never clean, maintain, adjust or clear jams when the machine is on.
- Stay clear of outlets, discharges, and all moving parts of machine.
- If equipment breaks down, don't just improvise, get it repaired.
- Avoid coming close to moving parts of a powered machine
- Don't leave a machine with engine running – never.
- Don't let children come near a machine while at work
- Don't refuel machine with engine running
- Don't let flammable articles or substances (like fuel, straw, *etc.*) close to working area or machine in operation
- Do not oil, grease, or adjust the machine during operation. Wait for engine & moving parts to come to a full stop before doing this. Remember, the feeding area of a thresher is the most dangerous. Do not let your hand or a loose sleeve of shirt enter feeding area of a thresher.
- Totally avoid working a petrol or diesel driven machine in a closed shed or garage. Exhaust fumes are dangerous to your health

Health and safety during Combine harvesting

Following points may be mentioned even at the cost of repetition as most of the steps are common to all the heavy duty machines with moving parts.

- Never attempt to lubricate, clean, adjust, or unplug harvesters when the machine or engine is running
- Do not allow anyone to climb onto the machine while it is in motion
- Keep children at a safe distance from the machine
- Always have a fire-extinguisher at hand on engine-operated equipment
- Ensure that the fuel system has no leaks
- While refueling, stop the engine and do not smoke
- When operating around machinery, wear work clothes that fit snugly.

Protective measures during operating machinery

Use of protective clothing is an extra measure of protection. All workers operating machines must wear protective clothing or personal protective equipment as a protection against accident/hazards. Also make sure that

the protective dress is safe and fitting to body (not loose or with loose ends).
Features of Protective dress and equipment:

- Good fit, appropriate and cleaned/well maintained.
- Safe and preventive storage to avoid damage, cuts, insect infestation
- No rough edges
- Overall body and coverage using overalls, aprons, vests, socks, gloves
- Avoid/prevent noise pollution while at work.
- Hard hats are always desirable for head protection
- Make sure protective clothing is available for different parts of the body.
- Kept clean, fully functional, and sanitized

Activities

Activity: Demonstrate general inspections for use of the machinery.

Materials required: Different types of equipments, users guide, pen, and notebook.

Procedure:

- Identify and select the machinery
- Check the different parts of machinery
- Identify the open moving parts or feeding parts which pose hazard
- Check assembling of each part of the equipments
- Demonstrate use of machinery after inspection.

Check Your Progress

Fill in the blanks

1. During harvesting ensure that the operators should wear _____ and secure their _____to avoid entanglement.
2. Need to protect not to allow anyone to _____ onto the machine while it is in motion.
3. Operators must wear _____clothing.

Multiple Choices Question

1. What is necessary to check machinery before start**?**

   (a) Farm operations

(b) Fill the fuel

(c) check the tires

(d) check the lights

2. What type of care is required to avoid any machinery accident?

(a) Using a machine that is unsuitable for the task

(b) Using unsafe methods for operations

(c)Guards and other safety devices missing or defective

(d) Using safe operating procedures

3. Which of the following safety precautions are necessary while refueling of tractor or other machinery?

(a) Engine in running condition

(b) Engine in off position

(c) Engine in off and no open flame nearby

(d) All of these

Subjective Questions

1. Enlist the general inspections of the machinery before use.
2. Describe the health and safety during combine harvesting.
3. Describe the use of protective clothing during machinery operations.

Glossary

Action Plan: A structured plan outlining activities, responsibilities, timelines, and expected outcomes for group or organizational activities.

Aggregation: The process of collecting produce from multiple farmers to form a larger quantity for efficient marketing and better price realization.

Allied Activities: Agriculture-related activities such as dairy, poultry, fisheries, beekeeping, sericulture, and livestock rearing that supplement farm income.

Articles of Association (AoA): A legal document that defines the internal rules, management structure, and operational procedures of a Producer Company.

Block Mission Office: An administrative unit under the National Rural Livelihoods Mission (NRLM) at the block level that supports SHGs and livelihood programmes.

Board of Directors: An elected governing body responsible for policy formulation, strategic decisions, and overall management of a Producer Company.

Branding: The process of creating a distinct identity for a product through naming, packaging, and marketing to enhance market value.

Capacity Building: The process of strengthening the skills, knowledge, and abilities of individuals or groups to improve performance and sustainability.

Cluster-Based Farming: A farming approach where farmers cultivate similar crops in a contiguous area to improve productivity and market access.

Collective Marketing: The joint sale of agricultural produce by farmers to obtain better prices and reduce dependence on intermediaries.

Collective Procurement: Bulk purchase of agricultural inputs by a group to reduce costs and ensure timely availability of quality inputs.

Community Action: Collective efforts by community members to address shared problems and achieve common development goals.

Community Investment Fund (CIF): Financial support provided to community institutions for livelihood promotion, food security, and emergency needs.

Distress Sale: The forced sale of agricultural produce at low prices due to urgent financial or household needs.

Economic Empowerment: Improvement in income, asset ownership, savings, and financial independence of individuals or groups.

Extension Services: Support services that provide farmers with training, technical advice, and information to improve agricultural practices.

Financial Inclusion: Access to formal financial services such as savings accounts, credit, insurance, and digital payment systems.

Governance Structure: The system of leadership, rules, and decision-making processes that guide the functioning of an organization.

Group-Based Models: Development approaches that promote collective action by organizing people into groups to access resources and opportunities.

Infrastructure Development: Creation of facilities such as warehouses, cold storage units, processing centers, and transport systems.

Institutional Credit: Loans and financial services provided by formal institutions such as banks, cooperatives, and financial corporations.

Internal Lending: The practice of lending money from a group's common fund to its members.

Interest Subvention: A government support mechanism that reduces the effective interest rate on loans.

Joint Liability Group (JLG): A small group of farmers who jointly take responsibility for loan repayment.

Krishi Vigyan Kendra (KVK): A district-level agricultural science center that provides training, demonstrations, and advisory services to farmers.

Leadership Rotation: The periodic change of leadership roles within a group to encourage participation and skill development.

Memorandum of Association (MoA): A legal document that outlines the objectives and scope of activities of a Producer Company.

Middlemen: Intermediaries who purchase agricultural produce from farmers and sell it onward, often reducing farmers' share of profits.

Mutual Accountability: Shared responsibility among group members to follow rules, repay loans, and actively participate in activities.

Organic Certification: Official recognition that agricultural produce is grown following approved organic standards.

Peer-to-Peer Learning: A learning process where farmers share knowledge and experiences with each other.

Producer Organization: A collective of producers formed to undertake production, processing, and marketing activities jointly.

Revolving Fund: Seed money provided to groups to support internal lending and livelihood activities on a rotational basis.

Rural Livelihood: Means of earning income in rural areas, primarily through agriculture, allied activities, and rural enterprises.

Social Empowerment: The process through which individuals gain confidence, participation, leadership, and decision-making power in society.

Sustainability: The ability of a group or institution to function effectively over a long period without external dependence.

Technological Empowerment: The ability of individuals or groups to access, adopt, and effectively use improved technologies.

Value Chain Approach: Management of all stages from production to marketing to maximize value addition and farmer income.

Working Capital: Funds required for day-to-day operational activities such as procurement, processing, and marketing.

Answer Keys

Unit 1, Session 1

Fill in the Blanks

1. knowledge, skill
2. Training
3. Continuous
4. 1971
5. four

Multiple Choice Questions

1-b, 2-c, 3-d, 4-c, 5-c

Match the Following

1-c, 2-b, 3-a, 4-d, 5-e

Unit 1, Session 2

Fill in the Blanks

1. Training
2. executive
3. title
4. Annexures

Multiple Choice Questions

1-c, 2-c, 3-a, 4-d, 5-a, 6-b

Match the Following

1-b, 2-e, 3-c, 4-d, 5-a

Unit 2, Session 1

Fill in the Blanks

1. Input
2. Product
3. Forward link
4. Rural youth

Multiple Choice Questions

1-c, 2-d, 3-a, 4-c, 5-b, 6-d, 7-c

Match the Following

1-b, 2-c, 3-a, 4-d, 5-e

Unit 2, Session 2

Fill in the Blanks

1. Linkages
2. Backward
3. Forward
4. Contract
5. bargaining

Multiple Choice Questions

1-b, 2-a, 3-c, 4-b, 5-c, 6-a

Match the Following

1-b, 2-a, 3-c, 4-d, 5-e

Unit 3, Session 1

Fill in the Blanks

1. 10 to 20
2. women
3. Farmer Interest
4. NABARD
5. 1998

Multiple Choice Questions

1-b, 2-d, 3-c, 4-c, 5-a

Match the Following

1-c, 2-d, 3-b, 4-a

Unit 3, Session 2

Fill in the Blanks

1. Value addition
2. primary
3. secondary
4. Tertiary
5. post-harvest
6. Upskilling

Multiple Choice Questions

1-b, 2-c, 3-b, 4-c, 5-b, 6-c

Match the Following

1-c, 2-d, 3-a, 4-b

Unit 4, Session 1

Fill in the Blank

1. chemicals
2. 0.4
3. 15
4. hood

Multiple Choice Questions

1-b, 2-b, 3-c, 4-a, 5-c

Unit 4, Session 2

Fill in the Blanks:

1. Tighen clothes, head/hair
2. Climb
3. Protective

Multiple Choices:

1.-c, 2.- d, 3.- d

List of Credits

DAAH, PSSCIVE, Bhopal

- Fig 1.1
- Fig 1.2
- Fig 1.3
- Fig 1.4
- Fig 1.5
- Fig 1.6
- Fig 2.1
- Fig 2.2
- Fig 3.1
- Fig 3.2
- Fig 3.3
- Fig 3.4
- Fig 3.5
- Fig 4.1
- Fig 4.2
- Fig 4.3